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Hay, and its properties.

In Michigan, as the winter is long, the hay crop is important, and it therefore behooves farmers to make this product as profitable as possible, first by cutting at the proper season; and second, by careful and correct treatment after the crop is cut. It may be well, therefore, to inquire, What are the properties of good hay?

1. The best hay should consist of the kinds of grass which are known to be most nutritious for all kinds of stock when cut and dried.

2. These grasses should be grown so as to be developed as highly as possible in size and in all their most valuable qualities.

3. They should be cut at that period of the growth of the plant, when it is known to contain the greatest amount of food, and which will permit the fullest growth of the succeeding crop.

4. The grasses should be dried or cured so that none of the valuable qualities which the plant contains when cut shall be lost.

The "tame hay," as it is called, or the hay made from grasses the seed of which has been sown by the farmer, is universally allowed to be the best for all kinds of stock. The "marsh or wild hay," as we have heard it named, is made from the grasses which are found growing in a wild state on the low lands and marshy meadows, which abound throughout the State, and although it affords a good quality of forage when well made, it is nevertheless considered an inferior description of hay, because the grasses are not naturally as valuable for food.

The "tame hay," generally is confined to three species of grass, namely, the Timothy, the Redtop, and the Red Clover, the first named being very correctly considered the best, and most valuable.

Timothy, or the *Phleum pratense*, of the botanists, is a perennial plant of the grass tribe which has a fibrous root, and which when cultivated, is inclined to be tuberous or bulbous, and which, therefore, needs more careful treatment in cutting than it generally receives. C. Flint, in his comprehensive essay on the

grasses of Massachusetts, adopts the following propositions made by a practical and observant farmer of Ohio, on the subject of Timothy and cutting it for hay :

1. That Timothy grass is a perennial plant, which renews itself by an annual formation of "bulbs," or perhaps, more correctly speaking, tubers, in which the vitality of the plant is concentrated during the winter. These form in whatever locality the plant is selected, without reference to dryness or moisture. From these proceed the stalks which support the leaves and head, and from the same source spread out the numerous fibres forming the true roots.

2. To insure a perfect development of tubers, a certain amount of nutrition must be assimilated in the leaves, and returned to the base of the plant, through the stalk.

3. As soon as the process of nutrition is completed, it becomes manifest by the appearance of a state of desiccation, or dryness, always commencing at a point directly above either the first or second joint of the stem near the crown of the tuber. From this point the desiccation gradually progresses upwards, and the last portion of the stalk that yields up its freshness is that adjoining the head. Coincident with the beginning of this process, is the full development of the seeds, and with its progress they mature. Its earliest appearance is evidence that both the tubers and seeds have received their requisite supplies of nutrition, and that neither the stalk nor the leaves are longer necessary to aid them in completing their maturity. A similar process in the union just above the crown of the bulb, indicating the maturity of that organ.

4. If the stalk be cut from the tubers before this evidence of maturity has appeared, the necessary supplies of nutrition will be arrested, their proper growth will cease, and an effort will be made to repair the injury by sending out small, lateral tubers, from which weak and unhealthy stalks will proceed, at the expense of the original tubers. All will ultimately perish either by the droughts of autumn or the cold of winter.

5. The tubers, together with one or two of the lower joints of the stalk, remain fresh and green during the winter, if left to take their natural course, but if, by any means, this green portion be severed, at any season of the year, the result will be the death of the plant.

From these five propositions the following conclusions are drawn :—

1. That Timothy grass cannot, under any circumstances, be adapted for pasture ; as the close nipping of horses and sheep is fatal to the tubers which are also extensively destroyed by swine if allowed to run in the pasture.

2. That the proper time for mowing Timothy is

at any time after the process of desiccation has commenced on the stalk, as noted in the third proposition. It is not very essential whether it is performed a week earlier or later, provided it be postponed till that evidence of maturity has become manifest.

3. All attempts at close shaving the sward should be avoided, while using the scythe, and in gauging mowing machines, care should be taken to run them so high that they will not cut the timothy below the second joint above the tuber.

I have frequently, during the past autumn, pulled up the bulbous roots of Timothy, from the stubble from which a heavy crop had been cut with the scythe, while in flower, for the purpose of studying the changes which were taking place in these tubers, and have found them very similar to those represented above, not only on moist, damp soils, but also on soils comparatively dry. Any farmer can satisfy himself of the correctness of the representations by a little observation in his own fields ; and as the point is of practical importance, it is worthy of careful attention.

The facts above alluded to have fallen under the observation of a practical farmer Middlesex county, who says : "The proper time to cut Herds-grass or Timothy, is after the seed is formed and is full in the milk. It will then give about twenty per cent more weight than when it is just coming into the blossom, and the cattle will eat twenty per cent less and keep on their flesh. And I prefer also to cut it at that stage of its growth on account of the roots being better able to withstand the drought. It should be cut four inches from the ground, as most of the Timothy is killed by mowing close and early before it has come to maturity. I have kept Timothy thick and strong in the land six years, by following this method. I have noticed that most of it has died out by once or twice close and early mowing before the grass has come to maturity ; if it is dry weather it is sure to die when so cut. I lost a whole field of it by mowing too close and early, and I consider the four inches at the bottom of coarse Timothy of little value.

"If the seed is allowed to ripen it exhausts the soil far more than if cut in the blossom."

Every plant contains certain constituents, which are constantly absorbed and used for its own growth and perfection, whilst it has life. But the moment the life of the vegetable is destroyed, the process of decay begins, and the mucilage, the starch, the sugar the gluten, are parted with readily, and particularly the sugar, which, being easily soluble is readily washed out by the action of water. This is especially the case, when the water of the plant has been once dried out, and the dead plant is exposed to the action of rain. Hence in the making of hay, the great point is to dry the cut grass so that little or no water shall be left in the plant to promote fermentation, for every one of the constituents above named will

ferment, whenever there is present moisture enough to enable them to change their conditions and thus furnish the heat requisite to promote decay, or that slow combustion which consumes all the nutritious parts of the plant and leaves nothing but straw or ash—a substance of little value as food for stock.

Ripe Timothy grass when cut contains, altogether, about sixty per cent of water which can be dried out by the sun, or in the process of curing, and this carries with it some of the volatile compounds contained in the sap. Hence the whole theory of haymaking consists in getting rid of the water only which will promote fermentation or decay, in such a way that the least possible portion of the nutritious compounds shall be lost.

The moment the hay is cut, the process of decay commences, and the elements which form the most valued portion begin to undergo changes, that will set them free to be used by other plants which possess life enough to use them. Our practice is, therefore, to spread out the hay so that action of the sun will dry it, as speedily as possible; and sometimes hay cut in the morning is so dry that it may be carried into the barn the same afternoon. This hay is well known to be the best and most valuable in quality. In the barn, it is the case that hay undergoes a slight fermenting process, but as it is exposed to no current of air, and as the heat evolved is not great enough to burn it, little is lost by this last curing. But it is more frequently the case that circumstances will not allow hay to be so speedily cured, and that the cut grass which is first spread, is raked up into small cocks to protect it from the dew or rain. In this state it undergoes, what is called a slight sweating process, but which is really a gentle fermentation, which renders the soluble compounds still more easily washed out, by any rain that may occur, than they were previous to the cock being put up, and which if the grass be again spread to be aired and dried, will permit much valuable matter to be carried away by the very air that evaporates the moisture. So that to make a first rate quality of hay much depends on the activity and good judgment of the farmer, and much on the weather, which he must take advantage of.

The Red Top, *Agrostis vulgare*, is a different grass from the Timothy, being softer, more slender in the stem, with narrow leaves, and not growing as high. It is earlier, and on moist fields not very rich grows well. It is however discarded from the list of grasses grown as cultivated grasses in Great Britain, where it is named the Bent Grass, and looked upon as a weed. The hay made from it is soft, and is eaten readily by cattle and sheep, and as a fair crop of it is sometimes obtained on soil not good enough to grow Timothy, some farmers sow a great deal of it, especially as it makes good early pasture grass. But to show its value, we need only state

that in the Woburn experiments it was found to yield only 9,528 pounds of green grass per acre, when cut in seed; this gave just half the amount in hay, and only 251 pounds of nutritive matter. The same grass cut in flower, gave 10,209 pounds of green food, which gave 4600 pounds of hay and yielded 531 pounds of nutritive matter per acre. Showing how very necessary that this grass should be cut in the flower. Compared with Timothy, however, it ranks very low in the scale of nutrition as in the same series of experiments made at Woburn, the latter was found to give at the rate of 40,839 pounds of green food per acre losing a little over one half in drying, and at the same time yielding 1595 pounds of nutritive matter when cut in flower; but when cut in seed this amount of nutritive matter was raised 3669, or more than double, showing that the ripe grass for hay was the most valuable.

The Clover will require a chapter to itself, and we shall treat of its qualities next month.

The Sorgho in France.

EDITOR MICHIGAN FARMER:—There has lately been made a report to the Academy of Sciences, in this city, on the subject of the Sorgho, which may prove of much interest to your readers, as I perceive that many persons in your State, are about to try its cultivation again the coming season. This report was made by the celebrated chemist, Dumas, in the name of Monsieur Leplay, a gentleman who belongs to the south of France, and has experimented very largely with the Sorgho, having treated not less than 1300 tons of the plant, in his business as a manufacturer of Alcohol. The Sorgho itself was grown by several cultivators in the neighborhood of Toulouse, Montauban, Carcassonne and Narbonne, and mostly on the alluvial lands lying near the canal which connects the Garonne with the Southern Canal. The seed was planted in different ways, during April, May, June and July of last year. That planted in April and May yielded seed perfectly ripe; what was planted in June had seed well formed, but only slightly colored,—whilst that sown in July had not had time to develop the seeds so that they were perfectly formed. It is therefore evident that in the south of France the plant requires the whole season from May to ripen its seed. Many will say, that they do not care to grow the seed, it is the cane and its produce of sugar they desire; but here is where the scientific observations of M. Leplay come in use, and declare that the ripening of the seed is accompanied with an increase of the saccharine richness of the plant. Thus it is found that the stems of the Sorgho when arrived at full maturity have given the following proportions, in 100 parts:

Water.....	70 to 73
Dry residuum.....	30 to 27

and that on the contrary, in the stems of the unmatured Sorgho, the proportions were in 100 parts

Water.....	80 to 82
Dry residuum.....	20 to 18

In both cases the woody fibre of the dry residuum was 9. It will, therefore, be noted that the remainder of the dry residuum, which was mostly sugar, was 18 to 20 per cent in the ripe plant, while it is only 9 or 10, in the unripe, so that the ripe Sorgho yields double the amount of sugar, that can be obtained from that which is not fully grown.

The following table which gives the proportionate quantities of alcohol obtained from the plant, verifies this statement still more completely. The alcohol was of 90 degrees strength, and is the amount obtained from 100 kilogrammes of the plant.

Alcohol from 100 kil.	of Sorgho not ripe,....	1.80 to 5.90
do do do	half ripe,....	4.30 to 7.45
do do do	quite ripe,....	7.45 to 9.80

It is to be noted that the Sorgho in the second class, which gave 7.45, was almost ripe. If these numbers are increased by adding to each two-fifths, we shall have nearly the amount of sugar yielded by each kind of plant.

The composition of the stem and the proportion of sweet substance depends entirely on the state of vegetation of the plant, and not on the period at which it may be cut. Other cuttings of the Sorgho have shown the same results, and that the yield of sugar or of alcohol in every case, was in proportion to the state of maturity at which the plant had arrived before it was harvested. It was likewise observed that the plant should not be allowed to remain uncut, when it had reached its mature state, as then it lost in weight and in sugar. The Sorgho should be cut when the seed is quite black, but not hard, and before the stem loses its green color.

M. Leplay has also found that there are some other phenomena connected with the juice of the Sorgho, which are worthy of notice. In testing the ripe and unripe juices of the Sorgho, with the saccharometer, for the purpose of learning the amount of alcohol which each crop would produce, he found a singular result follow, which was that the polarized light, when applied to the juices of the unripe plants, indicated either no crystallizable sugar or a very small amount, yet he was able to obtain the usual amount of alcohol from these juices. The differences indicated by this discrepancy of the saccharometer and the production of alcohol varied as the juice of the cane was from plants more or less ripe when cut, and the crystallizable sugar was indicated as freely in the ripe juice, as in the matter expressed from the Sugar Beet, or the Sugar Cane. The per centage of sugar thus indicated was frequently over 15 per cent in the juice of the ripe cane.

M. Leplay has also found that the canes of the Sorgho when cut may be dried by being submitted to currents of hot air, and that in this state the saccharine matter is stored safely so that the canes may

be either put away, or be carried great distances to manufacturers without sustaining any loss or deleterious change. By this process of desiccation, the Sorgho loses 70 per cent of its weight, and it is then found much more easy to treat it either for sugar, or for the extraction of alcohol.

The above is a brief summary of this report, which I hope will prove instructive to those who design to cultivate the plant.

Yours very respectfully,

J. B.

Paris, March 5, 1858.

Poultry, the Best Kinds.

Amongst the most skillful and enterprising breeders of poultry, in this State we rank E. H. Cressy, formerly of Troy, but now of Royal Oak, where he cultivates a farm of some extent, and still keeps up a small stock of choice poultry. When we were at his place last month, we found some very pure bred White Dorkings, Sumatra Pheasant Game, Malacca Game, Black Spanish, and a few handsome Bramah pootras, well bred and true. There is no man in this State, nor in the Western States who has had more experience with poultry than Mr. Cressy, and he went into breeding from a regular inborn passion for the pursuit. No dealer at the east has advertized good and well bred fowls, with whom Mr. Cressy has not corresponded, and whose stock he has not tried, often at a dead loss. For instance, a year or two ago, Mr. Cressy was desirous of getting a few choice Sumatra Game fowls to give a new cross to his stock, and applied to a dealer in New Jersey, who warranted his fowls to be pure and true. When the coop came up, the fowls instead of being clean limbed Sumatras, were found to be feathered on the legs, and not worth five dollars instead of five times that amount. Mr. Cressy wrote to the seller, but was informed by him that all his Sumatras were feathered on the legs, a mark that certainly showed impurity of blood.

The Asiatic fowls are no longer the fashion, and have been found unsuitable to this northern climate. After a long trial of nearly every variety, Mr. C. has given them up, except as being useful where there is a variety kept to yield a winter supply of eggs. But it is almost impossible to raise a nest of eggs, the hens being such poor nurses, frequently bringing out but two or three chickens from fifteen or sixteen eggs, while the hens of the Malacca and Sumatra Games, frequently bring out twelve chickens from every dozen eggs on which they are set, besides being most excellent providers for their young brood, when hatched.

Mr. C. had some of the most beautiful birds, and one especially was remarkable, for beauty of plumage, for width of breast, strength of limb, and weight. This bird was named "Jackson," and as a matter of course had his way whenever he set down his foot,

though sometimes not without a struggle, with some of the aspiring and ambitious of his neighbors.

The Black Spanish fowls are a handsome variety, and the cocks have a proud distinguished air, and carriage which seems very *hidalgo-like*. Mr. Cressy had a hen of this breed which in one season, from the commencement of laying until the time of the State Fair, laid one hundred and sixty-five eggs. These Spanish fowls are great layers, but very seldom set, or when they do, they are somewhat irregular in their habits. They are a good medium sized bird and withstand the climate well. The plumage of this breed is quite black, the head being ornamented with a lofty single comb, very deeply serrated and the face and ear lobes of a chalk white. The cock always looks like a "gentleman of high degree," dressed with elegance and neatness, but not showing off like some of the other races a great variety of showy colors. Mr. Cressy seems to think that the White Dorking and the Black Spanish, are more distinct as races than any others that he has tried. On one occasion, he bred a white Dorking cock, with a black Spanish hen, and every chicken was white and showed the plumage of the male; and when he reversed the cross, and bred a black Spanish cock with a white Dorking hen he had a brood of black Dorkings. The experiment is interesting as showing the effect of the male in transmitting certain outside characteristics, but is not wholly complete, not being carried far enough. For instance what would have been the effect of the black half bred Dorking, crossed back on the pure bred. Would the quarter Spanish predominate over the three quarters of the Dorking blood? There are a whole series of experiments which might be thus tested with two such distinct races. For Mr. Cressy states, and other breeders of poultry confirm it, that the Black Spanish is invariably true to color, and so is the Dorking, while every other breed of poultry can be varied according to the fancy of the breeder.

Mr. E. H. Cressy has on hand this season, a larger number of chickens of the breeds above named, than usual, the present spring having been very favorable to the growth of chickens, and if he cannot supply them *pure bred*, he is honest enough to say so, which is more than can be said of a good many in the trade.

Formation and Characteristics of the Horse.

The following very excellent description of what a horse should be, is taken from *Bell's Life*, an English sporting paper, by *Porter's Spirit*, from which we copy it. It ought to be read by all who are raising horses, or dealing in them as it gives a better and more complete description of the animal we desire to breed up to than is to be found in any work on the horse with which we are familiar.

"We are guided as to value by the following rules. Hence all breeders should study formation most carefully:

The structure and formation of any part of a well formed horse exceed in beauty of arrangement and adaptation of each organ to its separate and individual function any piece of mechanism ever made or invented by man. If the whole body could be found united in one animal, with each individual part so perfectly united and equally balanced as to strength, as the whole superstructure must give way before any particular part or parts would break down, then we should define that organism as perfect; and I believe it is on record that a horse's powers may have been so over-taxed as to cause death from sheer exhaustion, without any one particular organ showing more symptoms of weakness than another. This is the formation to find united in one and the same animal; or, at all events, by ascertaining and knowing confidently what is right and what is wrong we may guard against, and try and alleviate weak points as much as possible.

The head is the first object that strikes attention. A sensible, good-tempered, well-formed head is characteristic of something good to follow. A broad forehead above the eyes denotes plenty of brains, and generally, quietness, docility, with plenty of courage when roused into action, stamina, and goodness. The eyes, in appearance and expression, vary very much; moderately large, bold, clear, sound healthy looking, should be preferred to the prominent, convex, quick, restless, uneasy, wicked, or small deep-sunken eye. The expression of the eyes should be pleasing, and not denote any peculiarity. Anything singular in the expression, if not understood, should be avoided, unless at a depreciation in value; and horses with defective eyes, unless the defect arises from accident, excessive exertion, or some known cause, should not be used or preferred as sires, dams, or for any known purposes for which horses are used. Nearly all horses when aged show symptoms of work, if they have been much distressed, and frequently in their eyes, and allowances must be made for these appearances, cautiously, if they are selected with the view of being required to be highly conditioned, and for a long time together kept to severe exertion.

Horses' ears vary in formation; they denote breeding or not, and the way in which they are moved often strikes one of certain characteristics of temper, goodness, wickedness, and a variety of other sensations not at all times agreeable, particularly when you happen to be behind a horse in harness whose ears never seem easy or at rest. Game good horses generally put their ears straight forward when they are directed for any particular point, and when pressed never allow them to fall down on the neck, or twist them about as though they intended to shirk their task the first opportunity. A horse that carries his ears quiet and forward is much to be preferred to any other kind, whatever exceptions to the rule there may be. A thin-skinned, long, beautifully-formed ear denotes good breeding and manners when used quietly; any quickness of motion in this organ indicates uneasiness, unpleasant, and disagreeable reminiscences, not to be overlooked or lightly noticed.

The nostrils should be large and capable of great expansion when in active exertion, and not blown or puffed out with a snort at any chance, strange, or sudden object that may come upon the animal. This indicates temper and a disposition to be viciously inclined—this action of the nostril varies very much; in a mild temperament and a good animal it appears generally at comparative rest, and

not disturbed on slight excitement and trifling exertions.

The mustachio on the lips should always be left on, and not cut off, as they are the feelers, by which means horses avoid running their noses against hard substances in a dark stable at night; the tuft or curl of hair seen on the under-bred cart horse should not be visible on the well-bred animal, and the anterior portion of the upper lips should be free from any perceptible curl about the part.

When horses are bitten and properly broken, with nice handy mouths, they never roll their tongues about over the bit; they keep them tolerably quiet. On the other hand, you may generally discover something wrong, and not satisfactory, about the mouth and temper of a horse who opens his mouth and thrusts his tongue from one side to the other, over the bit, and never easy or at rest. These horses have generally either hard mouths, one-sided mouths, temper, or uncertainty about them—unpleasant discoveries found out after, and sometimes not at the time of purchase. The lower jaw should be taper round the nose-band, and above the curb-chain of the bridle, and wide between the grinders, to give room for the tongue, and particularly for the larynx and breathing apparatus at the angle, which ought not to be confined or pinched by narrow jaws—as horses with wide lower jaws are not half so subject to coughs and all the concomitant results. There is ample room for the tongue, and when the head is confined with being pulled too tight against the bridle reins, the larynx, a most important organ, is not not half so much compressed and confined, thereby avoiding all that soreness which may, among other exciting causes, produce cough, followed by whistling, roaring, &c.

There cannot possibly be too much room about the throat, considering that the majority of our valuable horses are more or less, affected in their breathing, from being confined in warm stables, high condition, and having their heads fixed, or you may say fastened, by a bridle when undergoing severe exertion. There are an innumerable quantity of circumstances that tend to test this beautiful piece of mechanism about the larynx; therefore, if Nature has not in many of our best horses, finished this part quite equal to other portions of the body, and this infirmity has been handed down to posterity, how necessary it becomes for us to have this part as perfect as possible! Many of our best sires are not by any means perfect here, and we must be more particular than ever in having plenty of room for the function of these important organs. The larynx in itself, when examined after death, is found to have a small and important muscle atrophied or wasted away on one side of its structure in all cases of roaring, or I would say nearly all, more complete in some than in others. This muscle not being strong enough to perform its function with its fellow on the opposite side, causes the cartilages (for there are two small pieces) that open on the stimulus being given for inspiration, to be acted upon imperfectly, the one being opened by the stronger muscle on one side much wider than the weak, atrophied muscle is capable of doing on the opposite side. This leaves an imperfect opening to the entrance of the atmospheric air, which causes the noise heard according to the state of the diseased parts. In the early stages of disease, when the muscle is not much wasted, and great excitement is induced, it may act more perfectly than later, time gradually producing more weakness, if the exciting causes are not discontinued; and in

some rare instances it (the muscle) may be faulty, and not cease to perform its functions, although imperfectly, for years without change. Any hereditary weakness here is handed down to posterity, more or less, as the case may be.

The setting on of the head to the neck varies. Some necks are pliant about six or eight inches behind the ears, and then the throat is not compressed in the same degree. In other cases, the head is attached to a stiff neck, and the throat is fastened or throttled, if I may use the term, almost in appearance choking the animal. This is very injurious—the neck ought not to be too long, nicely arched, head hung on easily, not popped up at the moment the bridle reins are firmly held, and not moved round laterally, as though loose-jointed; not deep, but thick through, as it joins the shoulders—that is, the muscles along each side of the middle of the neck ought to be well developed and strong, as these show constitution and stamina to endure severe and hard exertion, as much, or more, than any other individual part of a horse's body. A good neck is seldom seen on a light-fleshed washy animal. There are many notoriously good horses with comparatively weak muscled necks; these are the exceptions, bear in mind, and the animals require masters of the art to manage, and bring out their other perfections. Shoulders are the next puzzlers to both old and young beginners, and more is said about a horse's shoulders than almost any other part, if wanted for riding purposes. In a young horse, the only criterion is to have perfect action, with a large, deep, muscular, well-developed shoulder, fine at the points, not coarse at the junction of the bones to form the shoulder joint, not heavy and protruding, smooth, and not prominent enough to form a deep heavy angle, hanging forward over the fore legs. If the shoulder joint is rightly formed, the obliquity of the scapula will be generally found correct, some more than others. Those very oblique are not often so full of strength and liberty as most imagine; the muscles are weaker on the very oblique scapula, and not half so prominent on either side of the spinal process, with a want of strength on the top (excepting for very delicate light men, who sometimes prefer them to a well-developed, moderately oblique shoulder), strong in muscle, full of action, tightly fastened to the chest, and not loose and rollicking under weight, not too close together on the top, some width of chest between the shoulders, and the spinal processes of the vertebrae of the back not too high above the tops of the shoulders—the withers, as they are called, so that a saddle may sit behind and on the shoulders, giving you the feel when mounted that any ordinary weight would not alter either position or saddle or action of the shoulders. An oblique, wasted, flat, deep, heavy, pointed shoulder—admired by some—I detest; they are devoid of strength, endurance, and can never get you out of difficulties; and if a horse with this description of shoulder puts his foot in a hole, or makes any mistake, he either falls and breaks his own neck or yours. A horse with strong muscular shoulders can land over a drop fence up to his knees in clay, with weight upon his back, and pull himself out without your perceiving it; whereas a thin shouldered horse bumbles, makes repeated efforts to save himself, only to fall at last a burster, not readily forgotten—supposing both horses to have equal action in the shoulders and fore-legs. The test is equally the same in carrying you along a road, or in saving himself from falling, whatever may have produced disposition to falter. The fact applies equally to car-

rying his own body; of course I only allude to shoulders in conjunction with other parts being in proportion. The fore-legs next claim attention. The elbow joint is the most frequently overlooked, and least understood; if any defect is perceptible here, the whole action of the shoulder and leg is upset, and harmony destroyed. The elbow point should be prominent, and well-developed, as giving attachment and great leverage to the muscles of the shoulder, or in connection with that part. The position of this joint should be true, not twisted either inwards or outwards, neither pinned in, as though a screw had been passed through both elbow-joints and drawn them tightly together, below the shoulders. The joint should be true from before to behind, and outside the chest. If the back part of the joint turns inwards towards the heart or chest, the horse in his action probably turns his toes out, and hits one leg against the other in action. If, on the other hand, the elbow-joint is out too much, the animal turns his toes slightly in, and swings his feet outwards. If this is not too great, the fault is preferable of the two evils; as in the latter case, the horse does not injure his own limbs in action, shows more constitution, will prove a better feeder, and if the points of his shoulders are light, is much to be preferred, with good knee up action. We next observe the fore-arm, which should be well developed. The Flying Dutchman is remarkable in this point, and his muscles are very large all down the extensor muscles of his arm, giving his knees more the appearance of flatness than they otherwise would have. A flat stiff back knee-joint, is not desirable; the knee should appear large in formation and forward in appearance, when looking at the limb, (side view,) with the bone at the back, outside, and lateral part of the knee-joint well developed, to allow of plenty of room for the tendons, and prevent that tied-in appearance often witnessed immediately below the knee. The tendons of the leg ought to be large in size, well defined, firm to feel, and very clear and free from spongy feel, with a thin skin to cover the leg. The suspensory ligament next the bone of the leg should be large, not gummy to feel, and perceptible to the eye. The fetlock-joint should be flat sideways, not round when felt with the hand, and large in proportion. A large joint wards off concussion much better than a small one. The pastern-joints should be barely perceptible, and the pastern-bones very large comparatively—a good length, so as to give elasticity and avoid concussion, the continuous jar in action coming from below upwards. This is a very important formation, to avoid and ward off disease. The foot should not be in any way peculiar, not rimmy in appearance, contracted round the coronet, or too large, natural in formation, healthy to cut and pair, with plenty of horn, and not too much, not boxy-looking, not very concave in the sole, nor on any account convex, with a prominent healthy frog. Horses' feet vary very much in texture and appearance; if they have not the proper obliquity and the right formation, when put into work, some of the internal structures confined in the hoof must suffer more or less—the continued jar in a well-formed hoof soon alters its appearance, and every year makes a perceptible difference in its arrangement. When the formation is not perfect, to begin with, the result soon shows itself; generally the young animal is sent to be broken totally out of condition; the horse-breaker in a few weeks frequently lays the foundation of disease, which, although not producing lameness, perhaps is never after eradicated. Instead of the animals being train-

ed and brought into work slowly and carefully, they are at once rattled about on the hard roads, perhaps for hours each day, half fed—feet and limbs totally neglected—incipient disease is the product. Time and rest may restore somewhat these injured structures to their normal state, but never remove the foundation once given, which ever after renders them more liable to recurrence, on the application of the exciting causes, if not carefully, properly, and gradually prepared.—*To be continued.*

Practicality of Soil Analysis.

Will soil analysis pay? Will the pecuniary benefit of the analysis equal its cost? In most cases I believe it will not.

A rough, hasty, and therefore cheap analysis can give us no really valuable information. The Potash and Soda cannot be determined without a previous careful separation of the other constituents of the soil, requiring weeks of patient labor. The correct determination of Phosphoric Acid requires skill and great care in manipulation. Sulphuric acid forms a very small per cent of the soil; and may be wholly unnoticed unless the utmost accuracy be observed. These elements, although formed in such minute quantities are admitted to be indispensable; and if a distinction is made, they may be regarded as the most useful part of the soil. Analogous reasons might be given to show that in regard to other constituents, valuable results depend on strict accuracy. The objections stated in our last communication are specially applicable to this species of analysis—an analysis hastily made to save time and money.

Again, the quality of the soil depends a good deal on the proportion of each element soluble in water, and in acids; and hence, at least two different series of analyses are required to afford us the information needed. This of course increases the labor and lengthens the time.

That which does not dissolve either in water or Hydrochloric acid, is Silica in combination more or less with other kinds of matter. This Silica will be dissolved in the soil in proportion to the per centage of these several elements combined. A portion of that dissolved in Chlorhydric acid was also united with the Silica; and it is an inquiry of much importance to determine the amount.

Such a thing therefore as a good *hasty* analysis of a soil is impossible.

And I may here remark that a thorough analysis of a soil will require at least six weeks of steady work, and sometimes may reach two months. At the most a man cannot make more than eight such analyses in a year. Should a single analysis be made of soil from each one of the more than 200,000 farms into which Michigan will soon be divided—allowing 160 acres to a farm it would take more than 25,000 chemists faithfully employed one year. The cost of chemicals, of coal and alcohol for producing heat, and of apparatus broken would probably reach \$4,000,-

000. Aside from this a very large outlay must be made for apparatus which is not so liable to break. I seriously doubt whether this number of analyses of soils from different parts of the State would increase the capital equal to the outlay—the \$4,000,000 for materials used; the immense expense of fixtures as preparatory to these analyses, in addition to the 25,000 years of work which must be paid for from some source.

And more than this; a single analysis is often no just criterion of the quality of the soil of the whole farm. If the specimen is collected from a single field, it may not represent the soil of any other field; or if gathered from different parts of the farm and mingled together, it may not give us reliable knowledge of any one field. Hence many more analyses than those supposed must be made.

Now that the Agricultural College cannot execute this great amount of work—as some seem to suppose—is self-evident. In the first place there is not, and doubtless never will be funds to provide material for such an analysis, without charge. In the second place, the duties of the department of Chemistry are so onerous, that every hour devoted to such analyses must be taken from time when the Professor is not on duty. The business of instruction and investigations is more than sufficient to employ the time ordinarily allotted to the duties of the department.

There are various ways in which it is believed the Department of Chemistry at the College may benefit the State.

1st. Those who graduate at the College are expected to gain a thorough knowledge of the composition of soils, fertilizers, crops, etc., and an extensive knowledge of the application of chemistry to Agriculture generally, together with more or less experience in the principles of analyses. From fifty to one hundred such young men sent forth annually to take their share in cultivating the soil of our State, would not fail to be of service to the farming interests.

2nd. The department of chemistry may be almost constantly employed in conducting investigations on subjects connected with agriculture, and thus may be a centre of valuable truth.

3rd. Although it could not be expected that the department would analyze every man's farm, yet on proper conditions it could make a limited number of examinations of representative soils, manures, grains, &c., also of other material or sources of wealth found in our State.

And this last remark leads me to say another word in regard to the analysis of the soils of Michigan. Where the soil over any considerable portion of the country is nearly uniform, determined either by its general physical appearance, or by its natural vegetation, as, for instance, our pine lands, or any other which have characteristics alike, an analysis would doubtless be of great value; it might lead to

the adoption of means to secure a much higher degree of fertility. Where several persons own lands possessing the same characteristics, the expense to each would be slight; but that every farmer will find it profitable to get his different varieties of soil analyzed, I do not believe. I do not doubt that a great deal of money has in this manner been thrown away. Indiscriminate analyses will generally be of but little avail; while judicious selections may be made which cannot fail to be of advantage.

Let us recapitulate. A careful analysis reveals to us with great accuracy the composition of the soil.

From such analyses valuable truths may be derived of two kinds, 1st. The proportion of each element in the soil; and 2nd. Its mode of combination. And this last fact shows us why a small per centage of certain kinds of matter whether existing naturally in the soil, or supplied as a manure, may often be more efficacious than a larger amount.

Some substances in certain modes of combinations are poisonous to the plant; while in others they are beneficial. An analysis presents us with their condition.

An imperfect analysis is almost worthless. But a thorough analysis is expensive—too expensive to be employed by every farmer, especially if he have several varieties of soil.

Analyses of representative soils may be very profitably made.

The Agricultural College, although it cannot undertake the work of analyzing the soil of each man's farm gratis, may in this regard be of great service to agriculture by diffusing a more general knowledge of the chemical relations of soils, manures, fodder for stock, &c.; by conducting investigations having special reference to improved systems of agriculture; and as affording a place where on suitable conditions a limited number of analyses of soils, manures, crops, &c., may be made for the farmers of the State, particular attention being given to the bearing of these analyses on agricultural subjects.

In the next number of the FARMER, if nothing prevent, I will report an analysis of one class of soils on the college farm. From a combination of difficulties incident to the opening of the Institution, together with some unexpected misfortunes, but few such analyses have as yet been made. We hope in the future to make frequent Reports from the Laboratory.

L. R. FISK.

Ag'l College Lansing.

Grand Traverse Country.

DEAR SIR:—More than a year has elapsed since my last communication. The reason is that labor leaves no time for scientific pursuits, and there remains nothing to write but common place items.

The past summer has been the warmest, the wettest, and the most fruitful since my residence here; and the first season our farmers have raised a supply

of all, and a surplus of some, agricultural products; the latter could not be sold last autumn. One of our citizens went single handed into a very heavily timbered spot two years since, built a small board house chopped down about twenty acres of the timber, got a good burn; and last season he harvested about eleven hundred bushels ears of corn, besides some other crops, all planted among unconsumed logs with the hoe, having no team of his own. One or two others have done nearly or quite as well.

The land here is not yet in market, and we have no information when it will be; but every person who reads the last Report of the Commissioner of the General Land Office, will see that the squatter is amply protected, by existing laws, in securing a hundred and sixty acres, of which he takes undisputed possession; and there are many good chances yet to squat. This offers excellent opportunities for getting a home to those who have not the cash to pay for it in hand. Besides propositions have already been made in both houses of Congress to bestow upon each actual settler on government land a home of 160 acres; and, if President Buchanan is not as destitute of humanity as his predecessors, one or other of these bills may yet become a law; for it is well known that a majority of both houses of Congress have been in favor of it during years past, and nothing but the threatened veto has prevented its enactment.

Intrinsically, land is worth nothing for any other purpose than tillage or occupancy; and there can be no greater violation of the Creator's laws than in selling it to speculators, to the exclusion from it of those who have no means to purchase: and, accordingly, no other government measure has been productive of a title of the misery among mankind that has resulted from selling the land, wherever the whole has passed into the hands of individuals.

Last autumn a killing frost came about two weeks earlier than the two previous years, that is on the third of October. We had a snow storm about the middle of November, when snow fell seven inches deep; and several slight falls of snow since; but sun shine and rain took it away every time, till to-day we had another storm throwing down about five inches of snow, and, at 8 o'clock P. M., all the stars are shining, the heavy clouds having been driven away in a few minutes. To-day was the coldest this winter, the thermometer falling probably ten or twelve degrees below the freezing point.

Some of us planted Sorghum, which apparently remained stunted till sometime in July, when it commenced growing rapidly, and finally attained a good size; mine attained a height of about eight or nine feet with stems an inch in diameter, but so destitute of the saccharine taste that my oxen preferred corn stalks. None, however, ripened its seed; and, as this has been a very favorable season, it may be ta-

ken for granted that the Chinese Sugar Cane cannot be raised here to advantage.

Our trees were again loaded with fruit as they are annually; and the two severe past winters did no harm to our fruit trees whatever. Experience authorises us to assert that the east shore of Lake Michigan and around these bays, will be the best fruit country in the north western States, at least so far as apples are concerned; other kinds having not yet been sufficiently tried. But trees for this region should be selected from nurseries growing on loose sandy loam. H. R. SCHETTERLY.

Grand Traverse, February 5, 1858.

P. S. Having just discovered that the above letter had been laid aside, instead of being sent at the time specified above, it may now as well be the bearer of a few remarks in regard to the weather. I never witnessed so mild a winter in any part of southern Michigan as the one just past has been here at the latitude of 45 degrees. Ice first formed on our bays near the close of February, and melted away within ten days after. The coldest morning was, however, nearly as cold as other winters, that is nine degrees below zero; we had but little good sleighing. Spring set in about a week since, being four or five weeks earlier than usual, and people are now ploughing and sowing spring wheat and oats. For the first time feed and provisos are plenty in spring. There has been a lumber vessel from Chicago in the bay already, and navigation with the east will of course open early.

April 3, 1858.

Specimen of Ohio Farming.

DEAR SIR:—Mr. Howard Carter, of Ravenna, 35 miles southeast from Cleveland, has practiced the following routine with his corn, oat and wheat crops, and with uniform success. His farm of 100 acres, is rather adapted to grazing—a strong loamy soil, and forty years ago heavily timbered with chestnut, poplar or whitewood, white ash, hickory, maple or sugar tree, beech, &c.

He first manures, from the barn yard, *heavily*, a field of three or four acres. He then completely turns over a heavy sod, as deep as a strong team and plow will reach, following with the subsoil plow to the depth of twelve inches or more. The surface is then well harrowed, and the corn planted.

Great care is taken to keep the field wholly free from weeds and grass, by thorough cultivation.

He uniformly cuts up his corn, and never fails of a crop of seventy or eighty bushels to the acre, or more than double the ordinary yield from common cultivation. Then the first time the surface is thawed and dry to the depth of three inches, after the first of March he goes into the field with the harrow, and taking a turn over each row of corn stubble, endeavors to tear it up. Then after a thorough harrowing, he sows his oats, and harrows them in. In

1856, he measured from a field of 3 acres 298 bushels of oats, worth then fifty cents a bushel. In 1857, the season was very wet, his oats lodged, and he has fed many of them unthreshed to his stock, yet while the straw was large, it was well filled, because of early sowing.

After the oat harvest, he plows for wheat. Now for the first time the manure is brought to the surface, and his ground is in first rate order for wheat. In common with others in this State his wheat has suffered, from the ravages of the weevil, but the growth otherwise has been excellent.

After much experience, he has for three years past found this his most profitable course, laying his ground down to grass after the third crop, and mowing it, till it is time to renew the operation, and go through the same routine again. His whole farm yields a fair grass crop without any labor. It is best then, when a crop is raised by plowing, to get the most with the least labor. He finds it far more profitable to manure heavily, and to cultivate thoroughly a few acres, than to spoil a large field for pasture or meadow by surface plowing, no manure, and leaving his corn to struggle with weeds and grass for existence.

If he is right, may not many farmers with small farms, become like him not only independent, but to all intents practically rich?

Query. Ought not oats as well as spring wheat to be sowed, at the earliest day of the season? Mr. Carter sows his oats, when the frost beneath, would not permit the turning even of a shallow furrow with the plow.

S. Y. E.

Our Note Book—Oakland County.

The plank road from Detroit to Royal Oak passes through a tract of land which at some day or other will be valuable. But we must wait for this good time, until the value of the lands now in the hands of different proprietors, becomes so enhanced, that a system of drainage will be adopted by general consent, which will be on a large scale, and which will be sanctioned by law, or be adopted by an association for the general benefit.

This system will eventually consist of one two, or more large canals, with which will connect branches of less capacity, and into which will open the mains from the several farms which lie within their influence. There are here thousands of acres of rich soil awaiting this process, but which are now cold, wet, marshy tracts, giving food and shelter only to innumerable frogs and other reptilia, and disease and death to the human inhabitants whose drier tracts are affected by the malaria which arises with each warm season. There are many good farms also on the road, and in many places the rising grounds attain a considerable eminence for this section, and are sometimes, named hills, though we think it rather a pretentious designation.

Immediately after reaching Royal Oak, which is situate on a sandy plain that extends some distance south and west, we find the soil becoming more stiff and clay predominating as we proceed eastward.

Our first visit in this direction was made to Mr. Jasper, the present Supervisor of the town, and who has been a resident for some seventeen years. Mr. Jasper is by birth a German, coming from the dukedom of Anhalt-Dessau, where he had had a fair opportunity of becoming well versed in all that pertains to the system of farming in that part of Europe, his father holding a farm on the government domains. He farms eighty acres, but what is done here is well done, and we found his fields level, and clean, his grass fields without obstruction either to scythe or mower, and laid off in narrow lands, well marked, with the dead furrows straight, even, and regular in descent, without hollows, and lumps to render them useless. Mr. Jasper found great difficulty in raising rye on his land, he had tried it for two seasons, and in each it was thin dwindling and evidently a failure. Good and heavy crops of wheat had been grown on the same fields, but the fly had injured his crops latterly, so that he tried rye. The soil we considered rather too stiff, and damp for this crop, but this did not appear to be the reason of the failure. Mr. Jasper was using a Michigan plow, one of Mr. G. Smith's make, to turn under a heavy sod for corn. This sod was turned under well, to the depth of eight or nine inches, but four horses were used before the plow.

The road leading past Mr. Jasper's is a good one, Some years ago, Mr. Jasper was made road master. and he determined that his district should have a good road, so he warned out the proper kind of labor, and had the road bed thoroughly plowed; and ridged up. By the time this was done, the tax was worked out, and many were the anathemas hurled at the "Dutchman's summer fallow." The next year, however, he was chosen to the same office, when he brought on the scrapers and formed the road bed into a good arch with a surface broad enough for a wide track, and drains on each side! Since that time the "summer fallow" has been an excellent road, and is kept so at little expense, by having a scraper passed over it to fill up ruts before they become holes, and a little watchfulness not to let it get in bad condition; and we think the example is one which might be followed in many places with very happy results to wagons, harnesses and teams.

Mr. Rouse, a neighbor, was just completing a brick addition to his house, intended to supply the place of a basement. It was built with hollow walls, and double windows, and a cement floor, and we incline to look upon it as serving a good purpose. Such a house with some well grown evergreens on the north and west sides, would prove impervious to heat in summer or frost in winter.

Mr. N. S. Schuyler, we found laid up with a severe fit of sickness, but his son showed us his flock of sheep. Mr. Schuyler has for some years past paid considerable attention to French Merinos, and to which he confined his attention working his flock upward, by adding to it from time to time some of the best ewes and bucks he could procure. Of late however, he has been experimenting on the crossing of the French with Spanish and Silesian Merinos.— Ill health has interrupted his labors, and as yet, we could not perceive that any thing valuable had been attained. At the same time it would be premature to attempt to draw conclusions from an experiment or two, which had been as yet only half carried out. So far as mere profit was concerned, we think it would have been better to have attempted to keep up the standard of the French Merinos, by confining his flock entirely to the French breeds. Mr. Schuyler has a good cross of the Chester and Suffolk swine, which are really promising animals.

Mr. Ashur B. Parker has a very fine farm in the vicinity of Mr. Schuyler on which he also has a flock of sheep which seems to have been wintered with great care. But he gives the preference to the Spanish variety, as most suitable for his farm and the most profitable. We found him busily engaged in building the stone basement for a new house. He has his barns and yards for the care of his stock very well arranged.

Mr. Bloomburgh in this neighborhood has a horse of Nabob stock, a very compact well formed dark dappled bay, about fifteen and a quarter hands in height. Another horse which we noticed in this neighborhood is one named Highland Jim, owned by E. H. Cressy, at Royal Oak. He is a grandson of Highlander, and stands over sixteen hands high and is a light bay in color. Like all the Highlander stock, he is large, has very good action, is well put together, and though not perfect, is well calculated to do good service.

As we passed to the westward, we found the surface breaking into hills, and some of them quite abrupt, the lake region of Oakland county commencing in the country around. About three miles west from the plank road, is the farm of Mr. Willard White, who is the owner of a four year old colt, the sire of which is the imported Consternation, and his dam a mare of Messenger and Morgan blood. This colt is a dark brown, round barrelled, and possesses the lofty carriage, grand style, and light, graceful action and step of his thoroughbred sire. He has much substance, but for want of exercise, is not as fully developed as we could have wished. A pair of carriage horses of such style, size, and action, and well broken, with the increase of another year, would be apt to bring a good price in any market. This colt, we do not doubt, will do something towards improving the stock in his neighborhood.

Mr. Rufus Hunter, whose farm is located on the opposite side of the road, has a fine large colt now coming three years old, out of the Comet Morgan, whose size and action is extremely good for his age and his general appearance shows him to be well bred. This colt is much larger for his age than very many of the whole or half bred Morgans, and gives promise of becoming a large horse.

Mr. Hunter has a large flock of Spanish Merinos some of which are very choice. We found that he, like a great many others, had found the Spanish the most profitable. He had several bucks of very excellent quality, one of them, sent to him from the Bingham stock of Vermont, was remarkable for the great amount of oil or grease which his fleece contained. This flock, though good, was deficient in that evenness of size, form, and quality which is so desirable in all flocks, whatever may be the kind kept.

Within a few miles of Mr. Hunter, is located the farm and residence of M. Drake, Esq., who has all his buildings surrounded by large and productive orchards, a portion of the produce of which he was disposing of at his own door at the rate of 75 cents per bushel. Here also was a large and good flock of Spanish Merinos.

At Franklin, we found Dr. Buel, who acts as agent for the FARMER, actively engaged in the duties of his profession, from which he permitted us to withdraw him for a short time. Franklin is located in the midst of a good farming section, most of the land being rolling, and the soil a rich gravelly loam, with considerable stone scattered through it. The farms in every direction seemed well improved, and capable of sustaining a much larger amount of livestock than were to be found on them. Mr. J. B. Sly, whose farm evinced excellent tillage had been a sufferer from the depredations of the gang of horse thieves which have been prowling over the state for the past year, having lost a pair of horses valued at \$400, by these villains.

Here also is the farm of W. P. Durfee, Esq., whose residence is located on a rising ground which commands a most delightful view of the surrounding country, the house itself being quite a feature in the landscape. Just one thing is wanting, and that is a broad avenue with well grown trees on each side, from the road to the house. This want Mr. Durfee proposes to supply soon, and meanwhile we commend his attention to the article of J. S. Tibbits on preparing maples for transplanting next year, in the horticultural department of this number of the FARMER. But the trees that should line such an avenue ought not to be confined to a single variety, when there is ample opportunity to have fine specimens of the varieties of shade trees best adapted to our climate, both deciduous and evergreen. The whole art of adornment by the use of our native trees has had too little attention given to it.

Sheep Breeding and Sheep.

Two weeks spent in Oakland county, passing through a section where fine woolled sheep are kept in large numbers, has given us an opportunity of inspecting a great many flocks, and of becoming directly acquainted with the general characteristics of the sheep mostly bred in that section of the State, where much of our very best wool is grown.

Amongst the wool growers, with only a few exceptions, we found that the Spanish Merinos are in nearly all cases preferred, and many who have given the French Merinos a fair and long trial, have become satisfied, that the progeny of the French deteriorates, and that the infusion of the blood either as cross, or grades does not improve a flock, or render it nearly so profitable at the end of a few generations, as the same amount of infusion of Spanish blood. It may be asked what proof can be given of this, and we might in return reply the general testimony of those who have been at some expense to introduce the French blood into their flocks, with the design of giving size, and greater weight of fleece to the sheep. But we do not suppose that breeders would be content with this sweeping declaration, and we therefore point to the flocks of A. B. Parker of Birmingham, who is now breeding back to the Spanish, though very desirous to be successful with the French Merinos. Another extensive wool grower who has given the French cross upon his flocks a full and fair trial, is His Excellency the present Governor of the State. He also was desirous of gaining size, and additional weight of fleece, but has become satisfied that the progeny of the cross is not adapted to our system of farming, or to our climate and that to keep up a flock of the French in full perfection, more care and skill is required than Michigan farmers are able or willing to bestow upon it. A. N. Kimmis, of Lyon, has arrived at the same conclusion. There are others we might cite, but these are enough for the present. They are all wool growers, and not breeders, and have arrived at the conclusions which we have mentioned, rather against their own will, and desire.

Again in many cases we found a very great want of uniformity and evenness in flocks that were claimed to be wholly Spanish, but which we were very sure were not so. One large flock only did we find approaching perfection on this point, and that was owned by Mr. Robert Garner of White Lake. His farm is located upon some of the highest land in the State, rolling, and furnishes excellent pastures and a fine range for sheep. He purchased some years since, under very favorable circumstances, a small flock from Mr. Bingham of Vermont, and selling off all others which he then had, he has bred altogether the purest Spanish. The consequence is that his flock is the most even in character and weight of fleece, hardness of constitution, size and excellence

of form, of any that we have met with. There did not appear to be a single crooked-backed, steep-rumped, narrow-chested, long-legged sheep in the lot, that any one would pick out as a weed. He informed us that the average clip of his whole flock, last year was a little over six pounds, and that it was sold readily at the highest going rates. This flock might be taken as a standard, or model of what a flock of the Spanish Merinos should be.

One great cause of want of uniformity is the means necessarily adopted by nearly all our wool growers, to improve their flocks. No farmer interested in keeping sheep as a source of profit, can very well afford to dispose of his flock, at low rates, and purchase at high prices, a whole flock of either Spanish or French. Even if he could, it would be found impossible in many cases to get enough of the pure bred animals to form a flock; hence, recourse is generally had to the purchase of a single buck, as well bred as it is possible to procure them. In many cases, we are very certain that bucks have been palmed off on purchasers as thorough bred French or Spanish, which were really nothing more than high grades, and though effecting improvement in the quality of both fleece and animal, they have been the means of perpetuating that unevenness in flocks which is found to exist in almost every flock we have seen.

If we look at the origin of the flocks originally brought into the State, we find they have been brought together from every quarter, which has furnished settlers. Some have been driven in from Vermont, some from Ohio, but the largest numbers as far as we can learn were probably brought from western New York, by settlers coming from that state, and hence the basis of many of the flocks was the common native sheep, of no particular character, except that it had a light badly shaped body, longish legs, a thin fleece, of coarse texture, and apt to be scraggy and uneven. Some were better than others, according to the amount of care given them, but in general, they were rather unremunerative, either in fleece or carcass. These sheep have not, by any means, been obliterated by the introduction of the superior or improved races. There are plenty of them to be found in all parts of the State, at this day without much trouble in hunting them up.

It was upon the ewes of this kind of stock that the bucks of the fine woolled races were crossed and as a matter of course, the result was a half blood, many of the individuals of which would necessarily possess the uneven character that belonged to the original flock. The same buck was again used, and the result would of course be a three-fourths grade. Again another cross was made between this last grade and the full blood (if such he happened to be), and the result was a seven-eighths grade. By this time the original buck was deemed

to need some assistance in keeping up the character of the flock which was now beginning to be classed as full blood, and by some, a pure bred buck, or what was deemed to be so, was procured to continue the work of improvement. Frequently, however, a buck of the improved grade, probably as high as fifteen sixteenths or with perhaps but a sixty-fourth or even less of the common blood, would be selected; the consequence of this last cross was, that many of the defects, which the foreign bred buck had caused to diminish, came back in the progeny, and were more firmly fixed than ever. The careless breeder did not note this, and if he did, it was imputed to other causes than the true one. But this style of breeding with a disregard of proper selection, has evidently been the cause of much of the unevenness we note in very many flocks, which so far as quality of fleece is considered, might be judged as good, but in form would be called inferior by every one who has judgement enough to distinguish a sheep from a rabbit.

Randell, in his *Sheep Husbandry*, thus notices the effect of this in-and-in breeding. "A brother and a sister may be apparently healthy—may be actually so—but may possess an idiosyncrasy, which under certain circumstances will manifest itself. If these very circumstances do not chance to occur, they may live, apparently possessing a robust constitution, until old age. If bred together, their offspring, by a well known rule, will possess the idiosyncrasy in a double degree. Suppose the ram be interbred with sisters, half sisters, daughters, granddaughters &c. for several generations, the predisposition to degenerate, at first slight, now strong, will have become incorporated radically into the whole flock. The same remarks apply, in part, to those defects of the outer form, which do not at first, from their slowness, attract the notice of the ordinary breeder. They are rapidly increased, until, almost before thought of by the owner, they destroy the value of the sheep."

We have pointed out one of the causes of the unevenness we have noticed as a defect in many flocks. Its only remedy is the selection of ewes to breed from that possess as few bad points as possible, and the utmost care in weeding out all sheep that show a tendency to defect in form or fleece. Add to this, care in the selection of the buck which is to be used, and we think the flock will be in a state of continual improvement, instead of deterioration as many flocks are now.

In regard to the flocks which we have noted as crossed with French, we generally found that the progeny after the first generation, had a strong tendency to become lighter fleeced; and the ewes were invariably high on their legs, their bodies gaunt in appearance, narrow at the chest, thin on the loin, and evincing a want of constitution. We do not doubt that the French would prove valuable when bred by themselves, but being themselves bred up, and evidently containing many constitutional defects,

which do not appear in the ram, they are as yet the means of developing in our native bred Merinos, the very points which we have pointed out as natural to the old fashioned sheep before they were made subject to improvement. Hence they do not cross well.

We believe, therefore, that the French Merinos should be bred by themselves, or that when an improvement is attempted to be made by an infusion of their blood the cross should be by means of large well formed bucks of Spanish origin upon the ewes of the French race, which is the reverse of the system we practice. One of the chief objections to them is that they consume so much. In this respect they are not different from other sheep, which all consume food in proportion to their live weight. J. B. Lawes of Great Britain, who has carried on a series of experiments with several breeds, lays it down that two sheep of 150 pounds each will consume no more food than three sheep of 100 pounds each. So that if the French carcass weigh 120, while the Spanish weigh but eighty pounds, two French will be found to consume as much as three Spanish; and as wool is the source of profit to the farmer, if the three Spanish shear each as much as any one of the French, the keeping of the French will result in a loss to the farmer of a third in the weight of his wool compared to what he would have had, if he had confined himself to the Spanish.

We shall have more to say on this subject, as we extend our observations over the sheep districts of Washtenaw and Lenawee.

Our Notebook—Oakland County.

Wm. Whitfield's Farm and Stock—the Hampshire Down Sheep—cost and profits of his fat sheep—Pouhatan,—his cattle and horses.

Last month we passed through that part of Oakland county in which is located the farm of William Whitfield, Esq., whose long standing invitation we at length found time to accept. After passing the lake region of Oakland county and the tamarack marshes which lie to the north of Orchard and Cass lakes, the land becomes rolling, and the soil less light, and more loamy than it is in the immediate vicinity of the lakes. The farm of Mr. Whitfield is located west of the road leading north to Waterford and Clarkston, contains 320 acres bordering on the Williams lake, and about 200 acres are under cultivation.

Mr. Whitfield is celebrated throughout the state as the most extensive breeder of mutton sheep we have. But we found that he did not give his attention to them exclusively; but that horses, cattle, swine and crops, were equally well attended to, each department being carried on with a design to improve and render profitable the other and the whole farm. As a consequence, Mr. Whitfield was at all times master of the markets, instead of the market

being his master. When the prices suited him, he was ready to sell something, for he had a general stock on hand, and did not rely for his profits on any one particular division of the stock or crop. If wool or mutton happened to be down, he did not feel that the whole year was lost, for he had all his other stock to fall back upon; if wheat did not do well, it was only one field from which he did not reap a harvest, there were others on which he could rely. Every field was growing something, though it might in some cases be only a crop of clover to be ploughed under; care was taken that that crop should be first rate, and that the quantity of green manure grown on a given surface should be as large as the ground would grow.

The sheep kept by Mr. Whitfield are of the English breed known under the general name of South Downs. Of these Down sheep, however there are several kinds, that generally going under the name being specifically known as the Sussex Downs. The variety bred on this farm are not of this kind, they are the *Hampshire Downs*. This breed is noted as a very profitable and hardy race, and is spread over several counties in the south of England. The aim of the Wiltshire and Hampshire breeders, has been to raise a sheep that would combine size, quality, early maturity and a heavy fleece, with a hardy constitution. From their local position, they were desirous of raising lambs which could be sold to feeders, and which would come into the London market at from fourteen to sixteen months old as prime mutton. The open and unsheltered fields and the green crops raised requiring a sheep that would have a good constitution, a close fleece, and power to lay on flesh at an early age, combined with a good size and weight when dressed. Hence the breeders had recourse to the old Hampshire Down as the basis, possessing a native hardiness of constitution and much compactness of form, and by judicious crossing with the Leicester to gain early maturity, with the improved Cotswolds to secure substance and muscle, as well as leanness of meat, which the Leicesters lack, and with the improved South Downs to secure fineness of grain in the flesh, and closeness in the fleece, they produced the improved Hampshire Downs; and it is of this race the flock of Mr. Whitfield is composed. The effect of their origin may be noted in their wool, which is longer and not so close as that of the Sussex Downs; their fleece has a grayish tinge, and is not of the creamy white of the last named. The Hampshires do not stand so high on their legs as the South Down, and the black of the feet and head inclines to a brownish shade. As a profitable feeder, no breed can be considered the superior of this variety.

It will be remembered by the readers of the Farmer, that we called their attention to a sale of ten sheep by Mr. Whitfield in March, which brought \$10

per head, and averaged 109 pounds of dressed mutton for each of the lot. These sheep were mostly two years old, or about that age, and previous to being put up for fattening, had had only the ordinary care and keep given to the rest of the flock: that is to say, the flock was turned out on a good fair pasture in the spring, and let stay till it was time in the fall to take them up, and give them the same food and shelter which is given to all sheep of which proper care is taken in the winter season. The ten which were put up to fatten, were selected out the last week in November, and were fed each day at the rate of a peck of corn and half a bushel of turnips, with all the hay they would consume, until the first week in March, when they were sold. The time was 110 days, making altogether a consumption of 27½ bushels of corn, and 55 bushels of turnips. There was no account kept of the hay consumed, the sheep being fed each day all they would eat, and whatever was left, was taken out of their racks, and given to the younger stock, which thus permitted no waste. Allowing the hay to be fed at the rate of 50 pounds per day, and the ten sheep used up two and a quarter tons of hay; the whole cost of these sheep may be summed up as follows;

Pasturage and care of lambs first summer and fall, at 50 cts each.....	\$5 00
Feeding during the winter, as follows:	
10 lambs averaging 3 lbs of hay each for 180 days makes a total of 2½ tons at \$6 per ton.....	\$16 50
10 bushels of corn or oats, at 80 cents.....	8 00
	19 50
Total cost of first year.....	\$24 50
Pasturage second year, from May to Nov. at \$1 per head.....	\$10 00
Feed from Nov. till March, when sold:	
27½ bushels of corn and oats, at 80 cts. .	7 25
55 bushels of turnips, at 10 cts.....	5 50
2½ tons of hay at \$6.....	15 00
Total cost of second year.....	36 25
Total cost of ten fatted sheep.....	\$60 75
By 30 pounds of wool, clip of first year, at 30 cents per pound.....	\$9 00
By sale of sheep when fattened.....	100 00
	109 00
Leaving as clear gain.....	\$49 25

Will some of our breeders of Merinos give us the figures on some ten or twenty of their two year old wethers to put along side of the above?

We found on the farm of Mr. Whitfield the short horn bull Powhatan, which was brought into this state two years ago by Messrs. Barber and Sacket of Livingston county, N. Y. He is now six years old, and has turned out well, being much improved since we saw him when he was first brought here. Powhatan is a bull of large size, of a good red and white, with a deep chest and flank, wide in front, with a prominent and low brisket. He is not quite so full behind the shoulder as we should like to have him. His hips are long, and hind quarters very good, the loin is broad and full, and the back straight; his head legs and tail are fine and well formed. He is

the best animal of the kind we have as yet seen in Oakland county; and as he comes of most excellent stock, as may be seen by reference to his pedigree in the Stock Register, we hope to see some improvement made in the cattle of this section, for which there is ample room.

Mr. Whitfield has made a beginning also in cows, having now two very fair animals, one of which is from the herd of Messrs. Brooks, and the other from that of Harness Renick, Ohio. The latter is the dam of a yearling heifer sired by Sirloin. This heifer is white, but gives great promise of becoming a very choice cow, both in size and general excellence. There are now on the farm several fine calves from Powhatan.

In horses Mr. Whitfield inclines to stock which have got weight, substance and power, to carry them through a stiff fallow, with a plow at their heels running a nine inch furrow all day long. To do this day after day with one team, Mr. W. is well aware the horses must have stride enough in their walk to go rapidly without too much wearying exertion, so that size is requisite; weight is necessary also to aid the power of draught, and thus economise muscular exertion; while lasting and vigorous action can only be had from large muscular development. He therefore breeds from a horse named Genesee Farmer, a grandson of the celebrated draught horse, Alfred, imported some years ago into western New-York. We saw several of the progeny of this horse, which is a bright bay, that were powerful animals, and with good trotting action. A pair of grey mares on this farm, now four years old, are sixteen hands in height, and each weighs 1250 pounds, they are from this horse, and are designed to be sent to Stone Plover this season, Mr. Whitfield considering him one of the best horses for improving our stock that has as yet been brought into Michigan.

In swine the Berkshires have the preference, and of these it is the design to keep the stock as pure as possible.

We found here also Felt's stalk and straw cutter, a machine which is considered the best article of the kind now in use, and which Mr. Whitfield prefers to any that he has met with.

The soil of this farm is naturally rather light, being a red sandy loam, with considerable lim stone gravel amongst it. Plaster has a very good effect on it, when sown on clover, and this crop when used as a green manure, enables the land to produce heavy crops of grain. The wheat on this farm was in fine condition, and Mr. Whitfield informed us that he seldom had any trouble in raising good crops.

The well finished condition and surface of the pasture lands show a care and thoroughness of cultivation that is highly commendable. No part of the work on a farm is of more importance than the breaking up of the sod. Here the surface which the

level of each land showed evinced how well the plowing had been attended to. Every land was smooth, level, and without the humpy ridge running up its centre, that is generally found in most fields; the furrows were straight and without hollows and heights, so that they fulfilled their function of conveying the water from the land in the most direct way. The plowing on this farm was mostly done by Mr. Whitfield's sons, one of whom bore off the premium at the State fair some years since, when quite a boy. In the arrangement of the buildings no well considered plan has been followed, they having been put up as they were required.

A Challenge,—all about Sheep.

EDITOR MICH. FARMER.—The sickness I had when you were here was a severe attack of Erysipelas, of which I am now getting better. There is a correction I wish you to make. In speaking of my Silesian crosses, it should read they were from three quarter or seven eighths French. I have read with interest Mr. Perrin's bulletins for many years past concerning his sheep, and his challenge, and as the FARMER has published it as well as other papers, I will state what was its conditions and its nature. It was that Mr. Perrin would show his sheep against any sheep in Michigan, *provided his competitors would allow him to keep their sheep and his own!* Now, Sir, do you believe that any man who could tell a sheep from a goat, would be so idiotic as to trust his sheep with a competitor who will make such a proposition? Certainly when I read his last announcement of seven pounds of well washed wool from his Spanish sheep, old, young, and indifferent, I was inclined to give it up, and revert to Gulliver, Monchausen, or the famous Portuguese traveller Mendez Pinto, for some account of the breed, but at last I came to the conclusion that my friend Perrin must have been hiring "Darby's old ram,"

"The wool upon his back reached far up the sky,
The eagles built their nest in't, I heard the young ones cry."

However, leaving joking aside, friend Perrin, I will make this proposition that if you will exhibit your sheep at the next State Fair and you do not get beat, I will pay for an oyster supper for the committee and yourself, and if you are beaten you shall pay. And further I will agree to beat you myself, on a buck, and one, two or three pens of ewes, as may be convenient to exhibit. If I do not beat you, you may have the choice of one of my pens of ewes, if I beat you, I am to have the choice of one of yours, as a reminder how grievously people may be mistaken in the estimates of their favorite chattels.

Yours respectfully, N. S. SCHUYLER.

Birmingham, May 14, 1858.

Our Kalamazoo friends will please note that R. S. Gage, Esq., is agent for the FARMER at that place, he will receive subscriptions or receive arrearage at any time and transmit them to us promptly.

Horticultural Department.

The State Agricultural College—What will it do for Horticulture?

Having in a previous number noticed some of the incidental and general benefits to horticulture that may be expected to flow from the establishment of the Agricultural College, I proceed to notice the more direct and legitimate results that may be fairly expected from it; and also the most ready and efficient mode of producing them.

A sufficient maturity of judgment, with a certain amount of scientific knowledge, should doubtless be made indispensable to admittance to the institution, and it is probably the dictate of true policy to place the mark so low as to enable candidates for admission to acquire the necessary education in our primary schools.

A knowledge of the constitution of soils, with the best modes and materials for their amelioration and improvement, also a knowledge of Botany, of Geology, of Drawing, of the principles of Architecture, as applied to the style and arrangement of residences and other farm buildings, are alike necessary to students in Agriculture and Horticulture.

But to come more directly to Horticultural subjects—With the tyro, the first business in the garden is, to learn the use of the tools employed to spade, trench, loosen, level, and stir the soil; and also how he may best secure the various objects of spading or trenching in manures, or the simple inversion of the soil, and how perform the labor with the greatest ease to himself. That he may learn to do these in the best manner, it would seem indispensable that he be taught with the implement in hand.

With this, as with the various modes of pruning, in the illustrations of the principles of Landscape Gardening, and in the arrangement of orchards and shrubbery, the teacher can, and doubtless should, illustrate his ideas upon the blackboard during his lectures to classes; but he can seldom fully bring them home to the perception of his pupils, till he shall practically exemplify his teachings, *implement in hand*, upon the living plant; setting forth at the same time, his reasons for the process. It is easy, for instance, to tell a pupil in transplanting a tree, to cut back the top to correspond with the shortening of the roots, but very few inexperienced persons have any adequate idea of the actual extent of the roots of a growing plant, and the consequent shortening in transplanting; and in no way can their ideas be brought into definite form so effectually as by the actual performance of the operation.

In this thorough and eminently practical manner should the pupils be led from the first stirring of the soil, through all the various processes of laying out, planting, dressing, training, pruning, and general

management of the vegetable, flower and fruit garden and orchard, as well as the nursery and conservatory; imbuing their minds so thoroughly with a knowledge of the great principles of vegetable life, that they may be able to so humor or correct the peculiarities of plants, and husband their vital forces as to secure the desired results in the happiest and most effectual manner.

It should doubtless be a prominent object of the institution to collect, as rapidly as possible, specimens of all the varieties of trees and plants indigenous in our state, and have them planted in such soils and situations as shall best enable them to display their natural characteristics. Such a collection properly managed, would soon become an object of which the state might well be proud.

Although we might very naturally desire the early formation of such a collection, I trust that few persons would desire to stop here. The institution could hardly be considered complete without collections of trees and plants *foreign* to our state, both hardy and tender, arranged and planted with a similar regard to their native peculiarities. As in geology, access to a cabinet of minerals is indispensable to a thoroughly practical acquaintance with the science, so in botany, the descriptions can only be effectually brought home to the understanding, when given with the specimen before us.

A peculiarity of instruction by this mode, is that it can be properly communicated only at a certain season; and consequently that the arrangement of subjects must be such as shall bring each up in its appropriate time; so that the processes may be actually performed by the pupils under the direction of their teachers, and in the proper season.

It may be urged, that in many cases practical illustration is not necessary; that oral instruction with diagrams, is all sufficient, to enable the pupil to understand the thing taught, and that he can reduce it to practice whenever he may have occasion. To this it may be answered, that it is true only in a very limited sense. The reputation of the institution imperatively requires that its graduates shall come forth *fully fledged*. In chemistry, as in several other sciences, no amount of merely theoretical instruction can fit a person to enter, alone, upon a course of practical manipulation. So, in horticulture, merely theoretical knowledge, although indispensable to a thorough horticultural education, can hardly be considered more than secondary, as compared with the ready application of such knowledge in practice. The state has provided abundant facilities for the opening of the institution, with "room and verge enough" for its subsequent expansion. And although there is probably occasion to complain that foresight and thoroughness have been wanting in the construction of the buildings, so far, there is doubtless a disposition on the part of the

people to set this down on the score of inexperience; while they will, for the future, need assurance that the necessary watchfulness and discretion shall not be wanting, to insure a judicious application of the means necessary to the subsequent development and management of the establishment.

The newness of the domain may, in the department of agriculture, during the necessary subduing, furnish many valuable lessons to pupils who are destined to the occupancy of lands in our comparatively new country. Not so to any great extent in horticulture: while the necessary development of this department is going on, with the gathering, planting, rearing, and fruiting of its specimens, there will be much that can be but imperfectly taught; and especially in Botany and Pomology, resort must be had probably to specimens derived from exterior sources, to supply as best they may the home deficiencies.

While due allowance should be made for the incipient state of the department, the State expects, and will require that it shall send forth *practical horticulturists*—men who, instead of being obliged to learn of the laborers under their employment how to apply the principles they have been taught in the institution, have themselves already learned to apply those principles in the most efficient manner—men who are equally and entirely at home in the garden, the orchard, the pomological or horticultural hall, or on a botanizing excursion—men capable of laboring efficiently for the elevation of the horticultural tastes of a people just emerging from the arduous toils incident to subduing the wilds of a new state, and groping in the dark for the means to beautify and adorn the homes their labors have so recently carved from the native forest.

T. T. LYON.

Transplanting Maple Trees.

As much interest is being manifested of late in the transplanting of Maple trees, and having had considerable experience in this business. I give it for the benefit of those who may wish to improve and ornament their grounds in this way.

Go immediately to the woods and saw off all the trees you intend to set next spring to the height of eight to ten feet; this will insure a vigorous growth of young shoots, and a bountiful supply of fibrous roots. Select trees from open and exposed situations, as those taken from the dense forest will be more likely to be killed by exposure to the scorching sun. Early in the spring, as soon as the frost is out of the ground, proceed to take up your trees, by cutting with an axe, a circle around the roots of the tree, at the distance of from eight to twelve inches from the trunk according to the size of the tree; continue to cut, until you can readily break over the tree, being careful to remove as little dirt as possible from the root. Have the holes previously prepared by

digging them at least two feet in diameter, by one foot deep; fill up with rich, mellow soil, so that when the tree is placed in the hole, it may stand about two inches lower than when taken from the forest; fill up with surface soil, and throw around the roots a quantity of coarse, or, what is better, chip manure as a mulch. Rest assured, if these directions are followed 99 out of every 100 will live. In setting out over a hundred the last season, but one died, and that by carelessly throwing a quantity of stone about it. The top may be taken off at the time of digging up the tree, but it had better be done a year previous. Be sure and cut off every limb, and not leave the trunk over ten feet high. Trees of from one to three inches in diameter may be safely transplanted in this way.

No tree is more ornamental than the Maple: who does not admire a grove of them with their conical shaped tops and dense foliage? Talk of your "stately elms," "waving pines," and towering cedars!" They bear no comparison, in my humble judgment to a fine, thrifty grove of two or three hundred maples. Such a grove, any one may have, who has half an acre of spare ground, and energy enough to plant out the trees; and in less than fifteen years it will be a source of profit for making sugar, and an ornament of which any one may well feel proud.

J. S. TIBBITS.

Livonia, May, 1868.

Cultivation of Water Melons.

EDITOR, MICHIGAN FARMER:—In your Horticultural Notes, of the May No., a Correspondent of yours wishes to know the actual experience of some one of your subscribers in the State of Michigan, "On the raising of the watermelon, &c."

I do not presume that my experience is equal to many others of your correspondents, and much less to be compared with those who make it a profession to cultivate melons for market. But it gives me encouragement that through the medium of the FARMER its culture will be better understood and become more perfect, by each one furnishing such matters of fact as experience teaches.

My practice is to plant from the 10th to the 20th of May, making choice of soil containing a goodly portion of silica, and which has been only once in crop. I prepare the ground for melons pretty much as we would fit it for a crop of corn. Then for each hill I dig a hole about eighteen inches square, and about a foot deep; this I fill with rich earth from the forest, elevating the hills some inches above the common surface. I plant two or three seeds in each hill; but two vines to a hill should be allowed to grow, and the hills should be at least ten feet apart.

After the plants are up, the ground is dressed by drawing up the earth so as to make the hills the highest points in the patch. I then use decayed

leaves around the plants, covering them slightly with earth. The circle of leaves around each hill should extend a foot or more beyond the original holes. As the smallest weed affects the melons, the ground they occupy is to be kept perfectly clean by the cultivator, except that part covered by the decayed leaves, which is dressed with the hoe and the weeds are extracted by the hand. The watermelon requires all the sunshine that falls—there is none to spare for weeds.

By the above method we raised and were able to offer at our county fair, watermelons that weighed forty pounds apiece.

The flavor of the melon depends much upon the season, as it must have warm weather and sunshine. In some seasons it requires a more southern climate than ours in order to be highly flavored, as its sweet, delicious and cooling juices demand a hot sun for their full development.

For early use the seeds may be planted in a hot-bed, on inverted sods of proper size, or in small baskets of about six inches square. I am trying some in baskets this year. The sod or basket is transferred early in June. Taking the hot-bed mode the plants will have an earlier start, as they can be removed on the sods or baskets without retarding their growth, but in no instance have I obtained by this mode as large melons as by the former.

I cannot say what quantity could be raised on a quarter of an acre of ground, but I would say that we have raised from a single seed two hundred and forty pounds of melons.

J. F. ULRICH.

Park township, St. Joseph Co., Mich., May 1858.

Horticultural Notes.

The Hawley Apple and the Golden Pippin of Michigan.—In a Horticultural Note in the May No. of the FARMER, J. A. Robinson, of Battle Creek, speaks very highly of the Hawley as a large and excellent September apple, which, he says, ripens with the Michigan Golden Pippin. In answer to the remark that I am mistaken respecting its season, I would say, that J. J. Thomas, (Am. Fruit Culturist P. 156,) says, ripe mid autumn." Mr. Downing, (Revised Fruits, says, "ripe in September." As I remarked in my notes, (FARMER, P. 109,) it has borne with me but a single crop. I showed specimens at the last State Fair, (Sept. 29th and 30th and Oct. 1st and 2nd,) at which time none of them were fully mature. All fruits, however, were later last fall than usual. I, of course, gave the season of maturity as I had observed it. Mr. Robinson seems to have come to the conclusion that was put forth by Mr. Blois of Jonesville, sometime since, that the Lowell of Ohio, and the Michigan Golden Pippin are identical. By referring to MICHIGAN FARMER for last April, at page 108, it will be seen from my remarks on this fruit that Dr. Warder has examined specimens of it, and pronounces them distinct from Lowell. Mr. R. has doubtless compared the Hawley with Lowell, which is sometimes called Greasy Pippin. The true Michigan Golden Pippin is an August apple, seldom keeping beyond the middle of September even when produced on young vigorous trees.

Very Respectfully,

T. T. LYON.

☞ The *Spiraea grandiflora*, is a hardy deciduous shrub, a native of China, and which has been lately grown in England. It is considered as likely to become one of the most conspicuous ornaments in the flower garden.

New Apple.—The May Horticulturist contains a notice of a new sweet apple, called *Holmes' Sweet*, which is described by E. S. Holmes of Wilson, Niagara Co., N. Y., as produced from seed saved by his grandfather and sown by his father forty years ago. It is considered superior either for dessert or baking, and the tree is an excellent bearer, with a tendency to overbear every other year.

☞ Few can understand the extent to which flowers are cultivated in England. National and separate exhibitions are to be held this year by the growers of Carnations of Picotees, of Pansies, of Tulips, and of Roses.

Lima Beans.—These beans though planted with care will not come up, when even a slight crust is permitted to remain on the soil which covers them. A correspondent of the Ohio Farmer states that after twenty years of trial he found his best plan to set out four or five beans in a hill putting the germ side down. When the plants came up all were pulled up except the strongest grower. This was allowed to run to the top of a six feet pole when the top was pinched off, and all the ends of all the branches were pinched off in the same way. The pinching had the effect of causing the plants to set their flower and come into bearing earlier than if they were allowed to make more vine.

☞ We see it noted that the borers may be putted up with success. Any substance which will cut off the supply of air smothers the grub in the tree, and puts a stop to its destructive work.

☞ M.B. Bateham, of Columbus, Ohio, states that the "Rome Beauty" apple has been shown in fine order as late as March or April, though generally put down as a late fall fruit. The same writer states that the London Pippin was the finest apple seen in the Columbus market the past spring.

☞ Nicholas Longworth, complains that it is long since his vines have produced a full crop, and he seems to incline to the opinion that the mildew, rot and other diseases were caused by the vines being too closely pruned, his vine dresser being a German, and following closely the German system. A committee appointed at his request to examine his vines, seems to have arrived at the same conclusion, and that close pruning is not suitable for the Catawba Grape, as it is grown in the vineyards of Ohio.

New Pears.—Charles Downing in the Horticulturist, describes two new pears which have been sent him by John G. Bergen of Brooklyn, N. Y. One is named the *Bergen Pear*, a large well shaped pear, ripening last of September; the tree a good bearer, coming into bearing early. The other is named the *Island Pear*, and is a strong free grower, very productive. The fruit is of medium size, terribate in form, and pronounced in quality "very good." It also ripens last of September.

The Horticulturist.—We perceive that C. M. Saxton has again gone into the publishing business, and has become the publisher of the Horticulturist, the Philadelphia publisher, R. P. Smith not having had time to attend to it. We sincerely hope that Mr. Saxton may be well repaid for all the labor he bestows upon it. There is no periodical in the country which deserve to be sustained more liberally than the Horticulturist. There is to be no change in the editor, J. Jay Smith, retaining his connection. Mr. Saxton's experience as a publisher must certainly be a great advantage to this journal and render its influence more extended than it has ever yet been.

The Curculio.

The great difficulty in dealing with this enemy of the plum is a want of knowledge of its habits. Much as it has been the subject of discussion, very little is known of its actual life. It is not even positively known whether it flies or crawls up the tree. In the new volume of the New York Society's Transactions, Dr. Fitch observes, after reciting the history of the curculio so far as known, that what becomes of the insect from July or August till spring is not as yet ascertained. All that is known is that it makes its appearance in May or June, cuts a wound in the young plum, lays an egg in it and then disappears. The egg becomes a worm, which eats the fruit causing it to fall to the ground. The worm crawls out into the ground buries itself, and in the course of six weeks, having completed its transformations, comes out in July or August the perfect insect. Where does it go, and what does it do from that time till spring, is a query which it is desirable to have answered in a satisfactory manner. Perhaps some of our readers may be able to enlighten us in this important point—important because if once known with certainty, the knowledge may lead to a complete protection of the plum crop from the depredation of the insect. Dr. Fitch in addition says:

"The history of the plum weevil or curculio, so far as at present known, is briefly as follows: The beetle makes its appearance in May and June cuts a crescent-shaped incision in young plums and other fruits, dropping an egg in the wound, the worm from which, boring in the fruit, causes it to fall from the tree, and the worm becoming full grown, buries itself in the ground, where it remains from three to six weeks, and having completed its transformations the beetle again comes abroad in July and August. But what becomes of it from this time until the following spring is not yet ascertained. Although this insect and its destructive habits have been so long known in this country, and every owner of a plum tree has year after year endured the most vexatious disappointments from it, we to this day remain in ignorance of its abode and condition during half the year. Most persons who have written upon it, have supposed that some of the worms were so late in leaving the fruit that they remained in the ground through the winter and from these come the beetles which appear in the spring; and several of the remedies which have been recommended for abating this evil have been based upon this theory. But that a whole generation of these insects should be brought forth abortively each summer, to perish without making any provision for a continuance of their species, and that their perpetuity should be left to such a mere accident as a few individuals casually belated in coming to maturity, would be an anomaly wholly unlike anything which we meet with elsewhere in this department of nature's works. And Dr. E. Sanborn of Andover, Mass., in several communications published in the Boston Cultivator and Cambridge Chronicle in 1849 and 1850, gives it as the result of a series of observations which he had made upon the larvæ, that at no season of the year do they remain longer than six weeks in the ground, and that neither they nor the perfect insects lie under the ground during the winter. Dr. Harris hence infers, in the last edition of his Treatise, that those beetles which come out the latter part of summer lurk in some place not yet discovered, during the winter, to come abroad again in the spring and deposit their eggs in the fruit.

But I now come to present a fact which I think will be more satisfactory to the reader as to the place and circumstances in which this insect passes the winter, than anything which has yet been given to the public. In April, 1859, I received from L. B. Langworthy of Rochester, a portion of the limb of a pear tree, four and a half inches long and less than half an inch thick, upon which were about thirty short short curved or crescent-shaped incisions in the bark, similar to those made by the curculio upon fruit. They were all cut lengthwise of the bark, about 0.15 in length, and upon their convex side the outer layer of the bark was elevated in a little blister-like spot extending the whole length of the crescent and about half as broad as long. On raising this, so as to expose the cavity beneath, several little worms, commonly six in number, were found therein, torpid and lying in a row side by side with their tails toward the crescent and their mouths in contact with the soft green pulp or parenchyma forming the middle layer of the bark, ready to eat their way onwards as soon as the warmth of spring awakened them again to activity. These worms were rather long and narrow, 0.05 in length, broadest across their middle, tapering to a point at one end, the opposite or head end being rounded. They were without feet, transparent and pale yellowish, resembling little specks of gum or turpentine. They had evidently come from eggs which had been dropped in the curved incision. A few of these incisions had no elevation of the bark along their side, in which instances the weevil had doubtless been disturbed and abandoned her work before it was completed, or the eggs which she deposited in the incision had been discovered and devoured by some predaceous insect.

Although until these worms have been reared we cannot be certain what they are, there is the strongest presumptive evidence that they are the progeny of the plum weevil. Fifty years ago, one of the best authorities in our country upon a topic of this kind, Rev. F. V. Melsheimer of Pennsylvania, stated that the larvæ of this insect lived under the bark of the peach tree. But from that day to this, no one of the many who have undertaken to investigate this insect, have given any confirmation of this statement. Yet in the light of what is reported above, we cannot but regard it as true. We are informed by Kollar, that the plum weevil of Europe (*Rhynchites cupreus*) when there is no fruit for it, resorts to the new shoots in which to place its eggs. All the circumstances, therefore, lead us strongly to the opinion that the conjecture advanced by Dr. Harris in the first edition of his Treatise, but since abandoned by him, is correct, namely, that those beetles which are hatched the latter part of the season, finding no young fruit in which they can deposit their eggs, are obliged to resort to the smooth tender bark of the branches of our different fruit trees, and the worms from these eggs repose in, not under the bark, through the winter, and produce the beetles which appear the following June and oviposit in the young fruit.

If this opinion as to the winter quarters of the curculio proves to be correct, it may lead us to most important results. After allowing for all casualties, it is probable that a hundred beetles might have been matured from the short piece of limb which came under my observation. The worms, however, are only covered by the epidermis and the thin outermost layer of the bark. Soft soap or some other alkaline substance applied externally, there is little doubt would penetrate through this covering sufficiently to destroy these worms when they are so small."

The Household.

"She looketh well to the ways of her household, and eateth not the bread of idleness."—Proverbs.

EDITED BY MRS. L. B. ADAMS.

Signs of Spring—To Mary in the Country.

You wonder how we city folks
Can know that it is Spring,
With no green grass beneath our feet,
No wildwood birds to sing!
With no sweet blossoms springing up
To brighten all the way,
You wonder how we ever came
To know that it was May.
You say the fragrant pastures now,
Where golden cowslips grow,
Are filled with calves and little lambs
That run and gambol so!
And o'er the furrows black and long,
Like emeralds clasped in jet,
Each holding in its folded heart
A sparkling diamond set,
The tender corn is peeping out,
Unfolding one by one,
The dainty leaves that soon will flaunt
More broadly in the sun.
You say that o'er the waving wheat
Through all the breezy day,
Like fairy children at their sport
The lights and shadows play;
And that the blooming orchard trees
Their branching censers swing,
Perfuming all the sun lit air,
And thus you know 'tis spring!
But wonder how we city folks,
Without the wild bird's tune,
Or lambs and orchards, wheat and corn,
Can tell when it is June!

Dear Mary, what a simple girl!
How very countrified!
Your ignorance of city life
Is shocking to my pride!
You seem to think that nothing green
Can grow and flourish here;
Why, greenness is the very thing
For which we're noted, dear.
If you could know our business ways,
You'd soon begin to see
The greenest of your grass is pale
Beside our verdancy.
We're green enough to trust our friends
Their paper bills for years,
Though warned by starving publishers
We'll reap, not gold, but tears.
O, never in your greenest woods,
Where roughest verdure is,
Could verdant hunters come across
A greener thing than this!
And when our duns come back endorsed,
"Poor," "Dead," or, "Gone to sea,"
I do not think your silly lambs
More sheepish feel than we!
No; greenness is not wanting here,—
And through our city roam
Calves quite as big as any two
Around your country home.

You talk of growing wheat and corn,
And orchards blooming gay,—
But we had plainer signs than these
To tell us it was May.
Soon as the snow had left our streets,
And dust had come instead,

Each lady took a little sign
And tied it on her head.
But, fearing these might not be seen
Because they were so small,
Each had upon her shoulders hung
A rainbow-colored shawl.
Then, with gay skirts of trailing length,
From fashions o'er the seas,
They launched upon the Avenue,
And sailed before the breeze.
By skirt, and shawl, and top-knot gay,
And ribbons fluttering,
When o'er we looked upon the street,
We knew that it was Spring!
There roses stalked in stately pride,
With flaunting lily-belles,
As if in sportive strife to see
Who'd make the biggest swells.
And dandy-ions, neat and trim,
Enlivened all the scene,
With ornaments of yellow hue
Well set on living green!

So, Mary, by these signs you see,
Though from your woods away,
We needed not your grass and flowers
To tell us it was May.
And thus, without your sunlit dells,
And wild bird's simple tune,
No doubt our rose-and-lily-belles
Will tell us when it is June.

Woman's rights—Our rights.

Among all the "rights of woman" there is none which man is more willing to concede to her than the right of getting out of his way whenever it suits his pleasure or convenience to appropriate to his own use the space which she is accustomed to occupy. This will account, satisfactorily, we hope, to our readers, for the non-appearance of the Household in the last number.

But speaking of woman's rights puts us in mind of one or two points in regard to households generally, and our own in particular, on which we wish to express an opinion.

In the first place, we believe that every woman has a right to an education that will fit her to be mistress of her own house—not merely a nominal, but an actual housekeeper. Too many are brought up with the idea that the house is to be kept by servants, and that all that they, as mistresses, have to do is to keep themselves. This error, however, is more prevalent in cities, and among a class of people who are accustomed to depend upon servants. The discomforts and domestic bankruptcies to which it leads are bad enough, but no worse than the same results which spring from an error of a different sort far more general in its existence, and more widespread in its work of ruin.

A mother says to her daughter, "Never mind about finishing up the work; you must get ready for school; you will not have time to comb your hair this morning, but never mind, just brush it over and it will do."

The daughter takes her hands out of the dishwater, leaves everything at loose ends about the kitchen,

brushes over her front hair before the glass, and hurries away to school.

"Never mind being so particular about the sweeping," says another, "just brush out the riddle of the room, so that it won't look quite so bad if any one comes in; I'll finish it when I have time." Or, "Never mind cleaning the tray and table, and other utensils you have used in making bread; just get the loaves molded out, and leave the rest to be done when the dishes are washed." Or, "Never mind finishing that garment; just sew up the straight seams, and I will try and get time to do the rest." Or, "Never mind about picking up all the odds and ends of the washing; (or ironing,) I don't believe you would half do it if you should try, and I may as well do it myself. Just wipe your hands, and I'll finish up and put away things."

This "never mind" system has made more slatternly housekeepers than nature ever did. Very few girls are naturally lazy. They generally have an inherent pride of appearance, which, if cultivated and trained in the right direction, will lead to habits of industry, neatness and order. Those who have been taught the "never mind" lesson in their youth, will find in maturer years that they have been robbed of a right far more valuable to woman in her domestic relations than the right of suffrage, for which some are so strongly contending. Girls have a right to know how to finish their work as well as how to begin it, and this knowledge gained by practice while young, will give them both ability and confidence for the correct management of their own households in after years. If mothers are inclined to be thoughtless in this respect, we hope daughters will take the matter in their own hands, and insist upon their rights in knowing how to perform promptly, thoroughly and completely, from beginning to end, the duties which will devolve upon them as housekeepers. If they are fortunate enough ever to occupy that important position, this knowledge will be of inestimable value to them, if not, it can do them no harm.

In regard to our own Household, we would simply say, that like any other woman who has a house to manage, we would like to be recognized in our own province, especially by those for whom we are working. "A Farmer's Daughter," writes; "Mr. Editor—I was very much pleased with your article on pork and potatoes in the April number of the FARMER. Can you tell me what is the cheapest and best way to make sauce for baked pudding?"

Now suppose "Mr. Editor" had dined at this young lady's house, and after leaving the table should turn to her father and say, "Sir, I think you make excellent bread, and your cake is delicious. I should like to know what proportion of sugar you put in those preserves?"

We can fancy that daughter's indignant looks, and hear her mutter "How stupid!" as she listens to

the praise bestowed on her father for the bread her own hands have kneaded, the cake she has made, and the sweetmeats she alone knew how to compound.

Again, one who signs herself "A mother," writes: "Mr. Editor, your remarks about 'Girls at home' in a late number of the FARMER pleased me much. I wish women and girls could see themselves, and judge of themselves, as men see and judge of them."

Suppose our Editor in visiting this mother's house, should say to the husband and father, "Sir, I perceive that you dress your girls very neatly; I am glad to see that you have taken pains to give them correct ideas of taste in matters of personal adornment."

What a gratification it must be to the mother, after all the care and trouble she has had with her girls, to hear the credit all given to a man whose whole mind is occupied with his corn fields and barn yards, and who has about as much taste in dress as the oxen in his stalls.

We mention these things not as putting forward any claims to credit for what little our limited room and time has enabled us to do for the Household of the FARMER, but merely to say that the Editor disclaims the authorship of the articles on "Pork and Potatoes," and "Girls at Home," and does not know how to make sauce for baked puddings. He is kept busy with the stock and the cultivation of fields, and has no time to devote to cooking. A Farmer's daughter will find recipes for sauce in another place. If any of our readers know of better preparations, please send them in. We shall be glad to publish anything that will help make better cooks and housekeepers of farmer's daughters.

Making Butter.

As this is the season for butter making we copy the following excellent hints from Youmans' Handbook of Household Science, calling particular attention to the paragraph relating to the action of air upon butter. The bad butter so much complained of in city markets is, in a great measure, owing to the carelessness of the makers in working and putting it up. Many do not know what effect exposure to the air has upon it, and thus, through ignorance of a principle which all butter-makers should know, they lose their reputation as good housewives:—

Cause of Rancidity in Butter.—Pure oil has little spontaneous tendency to change. If lard, for example, be obtained in a condition of purity, it may be kept sweet for a long time without salt, when protected from the air. That it *does* alter and spoil in many cases, is owing to traces of nitrogenous matter animal membranes, fibres, &c., which have not been entirely separated from it. These pass into decomposition, and carry along the surrounding oily substance. So with butter; when pure and cut off from the air it may be long kept, without adding any pre-

servative substance. But a trifling amount of curd left in it is sufficient to infect the whole mass. It is decomposed, and acting in the way of ferment upon the sugar and oily substance itself, develops a series of acids, the *butyric*, which is highly disagreeable and offensive, and the capric and caproic acids, which have a strong sour odor of perspiration. The butter is then said to be *rancid*. In general, the more casein is left in butter, the greater is its tendency to rancidity.

Action of Air upon Butter.—The fat of butter is chiefly composed of *margarin*, which is its main solidifying constituent, and abounds also in human fat. It is associated with a more oily part, *olein*. Now, air acts not only upon the curdy principle, causing its putrescence; but its oxygen is also rapidly absorbed by the oleic acid. One of the effects of this absorption may be to harden it, or convert it into margarinic acid. This is, however, a first step of decomposition, which when once begun, may rapidly extend to the production of various offensive substances. When, therefore, butter is much exposed to the air it is certain to acquire a surface rancidity, which, without penetrating into the interior, is yet sufficient to injure its flavor. It is indispensable to its effectual preservation that the air be entirely excluded from it. Hence in packing butter, the cask or firkin should be perfectly air tight. Care should be taken that no cavities of spaces are left. If portions of butter are successively added, the surface should be either removed or raised up in furrows, that the new portion may be thoroughly mixed with it, or it should be kept covered with brine, and the vessel ought not to be finally closed until the butter has ceased shrinking, and the vacancies that have arisen between the butter and vessel's sides are carefully closed.

Substances used to preserve Butter.—Salt, added to butter, performs the twofold office of flavoring and preserving it. The salt becomes dissolved in the water contained in it, forms a brine, a portion of which flows away, while the butter shrinks and becomes more solid. Salt preserves butter by preventing its casein from changing; hence the more of this substance left in it the more need of salt. The quantity used is variable, from one to six drachms to the pound of butter. It is objected to salt that it masks the true flavor of butter, especially if it be not of the purest quality. Saltpetre will preserve butter; but it is less active than common salt, and some think its flavor agreeable. Sugar is sometimes added to aid in preservation, and to compensate for the loss of the sugar of milk. Honey has been also used for the same purpose, at the rate of an ounce to the pound of butter. Some employ salt, saltpetre, and sugar all together. From an examination of upwards of forty samples of English butter, HASSALL found the proportion of water in them to vary from 10 to 20, and even 30 per cent., and the proportion of salt from one to six or seven per cent. A simple method of ascertaining the quantity of water in butter is, to melt it and put it in a small bottle near the fire for an hour. The water and salt will separate and sink to the bottom.

A NEW FASHIONED COFFEE-POT.—No doubt many of our readers have seen in papers and periodicals, notices and advertisements of a new style of coffee-pot, called "The Old Dominion." In these days of humbug and scarcity of money, people are afraid to trust anything new till they have seen it tried, or till its virtues are endorsed by those who have tried it. We have been trying the "Old Dominion Coffee pot" for the past two months, and are ready to endorse all the good qualities the inventor claims for it. The coffee made in it is clear and fragrant, and if sediments are found in the bottom of your cup, you may be sure they come from some other source than the Old Dominion. But, while attesting to its merits, we would hint that it will not make genuine, fragrant Mocha out of the ground chickory, beans, peas, barley, etc., etc., which are too often sold and bought for pure coffee. Give the Old Dominion real coffee for capital, and it will return real capital coffee. We are not writing this as a puff to help pay for our coffee pot, for we paid the full price in cash, and feel that we have been re-paid since, many times, by the clear, delicious leverage it pours out to us. This notice is merely the interest due on value received, and also to let our readers know that there is no humbug in the genuine Old Dominion coffee pot; at least we did not find one in ours.

SAUCE FOR BAKED PUDDINGS.—A very cheap sauce can be made by simply sweetening a bowl of rich cream, and spicing it with nutmeg, cinnamon, or vanilla. A still richer sauce is made by mixing two parts sugar with one of butter; whip them to a froth, spice as above, and add a little wine or brandy if liked, but a spoonful of sharp vinegar will do as well. Another kind is made by thoroughly mixing a little flour with the butter and sugar, and then pouring on boiling water till it is of the consistency of thin cream, adding the wine or vinegar, and spicing to taste.

ANSWERS TO ENIGMAS IN APRIL NUMBER.—*Answer to Miscellaneous Enigma*—SEWING MACHINES. *Answer to Geographical Enigma*, MAJOR GENERAL JOSEPH WARREN. Answered by Melvin Williams, Kalamazoo; Sarah E. and Hattie E. Brunson, Victor; Joseph A. Bowen, Butler; Charlie W. Rudd, Orion; L. Soule and H. M. Evans, Marengo; M. H. L., Niles; C. Pearsall, Big Beaver; Geo. C. Woodman, Bath; Thomas B. Ten Brook.

The enigma sent by Master Ten Brook is a very good one and neatly written, but one word is wrongly spelled, and that, of course, makes the whole enigma wrong. It was the word "practical." He will do better next time.

NED, OF LIMA.—Your enigmas are altogether wrong; you have not counted the letters right, we can make nothing of them, and both go into the basket under the table.

Riddle.

I am composed of 5 letters.

Erase my 4, 5 and I am what thieves always do.

Erase my 1, 2, 3 and I am a preposition.

Erase my 1, 2 and I am a place to deposit grain.

Erase my 4, 5 and transpose and I am a sphere.

Erase my 3, and transpose and I am a kind of metal.

Erase my 1, 3, 4 and transpose and I am a negative.

Erase my 4, and transpose and I am the first great event of life.

My whole is a kind of bird.
Orion, Mich.

CHARLIE W. RUDD.

MICHIGAN FARMER.

ROBERT F. JOHNSTONE, EDITOR.

DETROIT, JUNE, 1858.**CIRCULAR.**

The undersigned respectfully solicit proposals for the location of the next annual State Fair of the Michigan State Agricultural Society—to be held for four days commencing on the Tuesday after the last Monday in September next—from the cities and villages on the line of the Michigan Central Rail Road, in accordance with the subjoined resolution adopted by the Executive Committee at its last meeting in January 1858. Such proposals will be expected during the month of June next, addressed to either of the undersigned.

Resolved, That the next annual Fair of the Michigan State Agricultural Society be held at that city or village on the line of the Michigan Central Rail Road from Detroit to Kalamazoo, where the greatest inducements shall be offered to the Business Committee of said Society. And that any considerations which may be offered shall be secured to the satisfaction of said Committee to be paid on or before the first day of September 1858.

E. N. WILCOX, Chairman of Business Committee.

J. P. C. EMMONS, Secretary.

Detroit, May 25th, 1858.

The State Agricultural Society.

It will be seen by the circular which we publish above, that the business committee of the State Agricultural Society, invite proposals to be sent in during the month of June, by such cities and villages as may desire to compete as the place of holding the annual exhibition, which is to be located on the line of the Central Railroad. After the proposals are received, the committee have the power to decide whether, taking all matters connected with the necessity of a successful exhibition into consideration, it will be wise or prudent to remove it from Detroit. We are assured that should the decision of the committee, in consequence of the superior inducements held out by the citizens, be in favor of holding the fair at or near Detroit, that every effort will be made to secure convenient grounds as close to the centre of the city as possible.

Much more delay has occurred in the payment of the premiums awarded at the last fair than was anticipated, and we have delayed making a notice of the cause, from month to month, believing that we should in the course of each month have to announce that the Treasurer was ready to pay them. The premiums are not yet paid, and the reason is that the Treasurer has not yet received the funds set apart by the Society for that purpose. The receipts of the Society for 1857 were entirely used in the payment of the expenses of the year, some of which seem to have been extraordinary, and the liquidation of the balance of the old debt of the Society, leaving the premiums to be paid by the appropriation made by the State in aid of the Society for the year 1858. The executive committee at its last session set this appropriation apart for that purpose, and by resolution directed the Secretary not to issue

the certificates until he was notified by the Treasurer that the money was received. Soon after its adjournment, the Treasurer made an informal inquiry of the proper State officer, relative to the payment of the appropriation, but was requested to wait until after the taxes were paid in. About the beginning of April the treasurer made application in the same form and manner in which it has been usual to apply for the state appropriation to the proper department, but the application was refused on the grounds that it was not made in accordance with the law. The whole matter remains for the present under advisement, and will probably be settled during the present month. Meanwhile members of the society to whom premiums have been awarded must be content to give the society a little longer credit.

We have received from the hands of J. P. C. Emons, Esq., the Secretary, the premium list, and the lists of judges for the next state fair, and shall publish the whole in the July number of the FARMER.

ENCOURAGING.—Since our notice of last month, we have had several very worthy friends step up to the captain's desk, and settle for subscriptions due from 1852 and 1853 till the present time, and also for a year in advance. We have, however, a good many more left whom we would feel pleased to have do "likewise," at an early day.

During the past month we have visited a part of Oakland county, where we had never been before, become personally acquainted with many friends of THE FARMER, and have gained much useful information, which we hope to turn to good account, concerning the crops, the system of cultivation, the live stock, and every matter connected with agriculture as it is pursued in the section where we have been. We have also to return our thanks to the many friends who extended to us the most ample hospitality and attention, amongst these are F. G. C. Jasper and E. H. Cressy of Royal Oak, A. B. Parker, R. Hunter and Mr. Hoth of Birmingham, M. Drake and W. P. Darfee of Franklin, J. Daines and D. Cummings of Bloomfield, W. Whitfield of Waterford, R. Garner and R. A. Voorhees of White Lake, A. Crawford of Commerce, H. C. Andrews, L. Fuller and E. L. Drake of Milford, N. Tenny of Highland, A. N. Kimmiss of New-Hudson, and Kinsley S. Bingham of Green Oak. Our Note Book in future numbers will have some remarks on what we observed, and particularly on the gypsum deposits in Commerce and Milford.

SHEEP SHEARING FESTIVAL AT ANN ARBOR.—The Washtenaw County Society holds its fourth Annual Sheep Shearing Festival on the 9th and 10th of June, at Ann Arbor. A plowing match is to be held at the same time which is expected to be one of great interest, from the number of entries. It is expected also that a number of mowing machines will be exhibited and tried. We hope to be present and witness the proceedings. Asa Williams, is President, and L. Davis of Ann Arbor, is Secretary, either of whom will furnish other information relative to this exhibition.

Michigan Stock Register.

The letter *e* after figures denotes English Herdbook, and where there is no letter the American Herdbook is meant.

Shorthorns.

No. 63.—POWHATAN, 830. Roan bull. Bred by J. M. Sherwood, Auburn, N. Y., now owned by Wm. Whitfield of Waterford, Michigan. Calved Sept 20, 1852.

Sire, Lord Vane Tempest 10469 E., imported by J. M. Sherwood in 1850, and sired by the Earl of Chatham 10176 E, out of Princess 1st by Napier 6233.

Dam, Phantom, by Yorkshireman 189. Yorkshireman was bred by Thomas Bates of Kirkleavington, and was imported by Thomas Cope, Westchester N. Y.

g. d. Phenix by Hero 4020 E.

g. g. d. Princess by Washington 1566 E.

g. g. g. d. Pansy of Blaise 763 E.

g. g. g. d. Primrose, by Charles 127 E.

g. g. g. g. d. — by Blythe Comet, 85 E.

g. g. g. g. d. — by Prince 531 E.

g. g. g. g. g. d. — by Patriot 436 E.

Powhatan was brought into this State by Messrs. Barber and Sacket, in 1856, and sold by them to Mr. Whitfield. He is, as will be seen by the above pedigree, one of the best bred animal in the State, and does great credit to it, both in form and size.

No. 64.—BEAUTY. Red cow. Bred by Henry Simpson of Livingston County N. Y. Now owned by William Whitfield of Waterford, Michigan. Calved June 5, 1853.

Sire Rocket, 930, bred by James Wadsworth, of Genesee, N. Y., a bull got by imported Rocket, 4979 E., out of a cow of the Scioto Valley importation of 1834.

Dam Jenny Lind, by Yonondio 1116.

g. d. Strawberry by Remsen 145.

g. g. d. Betsey, imported by Thomas Weddle, Rochester, from the herd of Major Bower, of Welham, Yorkshire, Eng.

No. 65.—WHITE LILY. Heifer. Bred by Wm. Whitfield of Waterford, Mich. Calved April 1857.

Sire Sirloin, the premium bull now owned by S. W. Dexter, of Dexter.

Dam White Rose, a cow bred by Harness Renick of Ohio.

No. 66.—WHITE VIOLET. Heifer, bred by Wm. Whitfield of Waterford, Mich. Calved April 1858.

Sire Powhatan 830.

Dam White Rose, bred by Harness Renick of Ohio.

Notes and Queries.

We perceive that R. A. Alexander advertizes that he is willing to sell or let several of his imported bulls, which he has used, and does not any longer need. Amongst them are Sirius, El Hakim and Lord John. These we saw at the Fair of Louisville, and think that either of them hired for a year or two by some of the breeders of this State would be found quite an improvement.

Mr. Salmon F. Kingsley of Galesburgh has purchased the Essex boar "Nero," from J. S. Tibbits, which was advertized last month. The only word of caution we have to give Mr. Kingsley is not to use him too well. Keep him poor.

The American Cyclopaedia.—The Messrs. Appleton & Co. have issued the second volume of the great work, to which we have directed attention. The volume finishes the articles commencing with *A*, and a few of those beginning with *B*. Amongst them will be found most excellent memoirs of some distinguished citizens. Of this work, the venerable Benjamin Silliman remarks:

"I am free to say that I have been both instructed and interested, and have found all the hours that I could command, during the four days that the volume has occupied me to the exclusion of other books, to pass agreeably, that

I have lingered among the rich articles of this work, and have found it a recreation rather than a labor. History, Biography, Geography, Topography, Geology, and General Science and Art, in many of their most important branches are treated with perspicuity, correctness, and discrimination, and not a few of the articles are so full that they present a summary and synopsis quite sufficient for the general reader. S. B. Howe of Detroit, is the general agent for its sale.

The Messrs. Haines of New Jersey, it will be seen offer a splendid lot of cattle, sheep and swine for sale on the 16th of June. Their catalogue includes such animals as Marmion, Diana Gwynne, and young bulls and heifers from Neptune, Grand Duke, Duke of Gloster, and other imported stock of the highest grade. We see they offer some Cotswold sheep in their list, which we hope some one will try to introduce here.

C. S. Wainwright, of the Meadows, we perceive by his catalogue offers for sale some Essex swine, of a different and more recent importation than the Morris Stock and which afford to breeders a chance to cross to advantage.

J. A. Robinson of Battle Creek writes in response to Pieter, whom we hope to hear from frequently, that he did not write about his Red Blaze corn with the idea of selling or making a speculation, but with the hope that he would wake up some one to give its history. He will try the Red Blaze with the Dent and King Philip, and promises to give the result.

[Mr. Fowle's Red Blaze was not a white corn, it was a yellow, with the red blaze on the end.—Ed.]

"In your description of a stable for dairy cows, you said the platform or short floor for the cows to stand on, should be six feet; this would be too long to keep the cows clean, as the droppings would all fall upon it, instead of falling in the gutter behind. I have one in use which is four feet six inches from the edge of the timber where the stanchells are fastened, to the end of the platform, and it is plenty long enough for ordinary cows. To a very large cow it might be three or four inches longer, but it is easier lengthened than shortened after it is built.

Will some of your readers give their experience in curing clover hay with lime last year?"

Patent Office Seeds.—B. P. Johnson of the New York State Ag. Society, says a large quantity of seeds of different kinds of wheat and rye was received by him from the Patent Office, which, when opened were found to be filled with the weevil. The seeds were immediately destroyed.

Distributing the weevil is what we would call paying rather dear for the whistle in the Patent Office.

We perceive by the Monthly Bulletin, that the Medals of the United States Society have at last been struck off at the Mint, and will soon be forwarded. Our friend Daines to whom this medal was the only return for an expenditure of about \$100 in exhibiting his excellent drain tile machine, will probably get his in a short time.

The Pennsylvania State Agricultural Society have passed a resolution, offering a premium of a Shorthorn bull not less than eighteen months old to the County Society that shall furnish the largest number of members to the State Society, in proportion to the number of its taxable inhabitants previous to the 15th of September next.

Joseph Frey of Battle Creek, has taken out a patent for improvement in seeding machines.

The Composition of Milk at various times of the day.—Professor Boedeker has analyzed the milk of a healthy cow at various times of the day, with the view of determining

the changes in the relative amount of its constituents. He found the solids of the evening milk (18 per cent.) exceeding those of the morning's milk (10 per cent.,) while the water contained in the fluid was diminished from 89 per cent to 86 per cent. The fatty matters gradually increase as the day progresses. In the morning they amount to 2.17 per cent., at noon 2.63 per cent., and in the evening 5.42 per cent. This fact is important, in a practical point of view; for while sixteen ounces of morning's milk will yield nearly half an ounce of butter, about double this quantity can be obtained from the evening's milk. The case is also increased in the evening's milk from 2.24 to 2.70 per cent.; but the albumen is diminished from 0.44 per cent. to 0.31 per cent. Sugar is least abundant at midnight, (4.19 per cent.,) and most plenty at noon, (4.72 per cent.) The per centage of the salts undergoes almost no change at any time of the day.—*Edmburg Medical Review.*

Received—From B. P. Johnson, Esq., the list of Premiums offered by the N. Y. State Agricultural Society. From Professor Winchell, a copy of his lecture entitled "Creation the work of one Intelligence," a most eloquent and logical conclusion to the series of lectures delivered by him before the Young Men's Literary Association at Ann Arbor.

The Hungarian Grass.—It is becoming more and more evident every day that the so-called Hungarian Grass is nothing but a variety of the common German Millet, which most of our farmers are pretty well acquainted with. L. F. Allen of Buffalo has tried it, and found it the same.

Mr. Sanford Howard, the editor of the *Devon Herd Book*, states that the publication of the third volume of the *Devon Herd Book*, will involve a loss to the publisher, and appeals to the breeders of this variety of cattle to sustain the publication by subscribing for more copies. The volume is to be published in connection with the *English volume* and will contain the entries in both countries. The subscription price is one dollar a volume—too little by half.

An Error.—The country Gentleman states that 36,000,000 pounds of wool were shipped from Detroit last year. This is a mistake of a cypher too much. It should be 3,600,000 lbs.

Gapes in Chickens.—There are many who will at this season desire to save a brood of choice chickens, from the effects of this disease, which is occasioned by a little red worm which infests the windpipe. The best plan is to take a small quill feather, strip off the feather except a tuft at the end, to which tie a thread. Catch the chicken affected, open its mouth, and thrust the feather into the windpipe, giving it a few turns so that the thread will be wrapped round it, and thus aid in dislodging the worms, which will come up with the feather when pulled out. This is all that is necessary.

John A. Taintor of Hartford, Conn., is the great importer and breeder of the Alderney cattle. One of the points of the Alderney cattle is the possession of a black tongue, as well as a black muzzle, both being a sign of superior richness of milk.

The Kentucky State Fair is to be held at Louisville, the first week in September.

A correspondent of the *Maine Farmer* recommends that a pint of rum or gin given to a sow will prevent her from eating her pigs. If the sow will not make a hog of herself by drinking the rum of her own accord, it should be poured down her throat.

The next Pennsylvania State Fair is to be held at Pittsburgh.

We perceive that a newly invented rotating harrow, called the Buckeye, is in market. It is claimed that while it grinds the surface soil into a well pulverized state, it is not liable to clog or be choked up with roots or other substances.

The County Societies are beginning to wake up and make preparations for the annual exhibitions. The Eaton County Society will hold its fair September 28th, 29th and 30th, at Charlotte. T. D. Green is President, John Morris is Secretary.

Smith's Patent Stationary Tongue Buckle.—Happening in at the Harness Shop of W. W. Smith, in this village, recently, we were shown this new invention for fastening tugs. It is so constructed as to divide the strain between the tongue and the back part of the buckle. The advantage of this arrangement is, that the tongue being much smaller than in the ordinary buckle, less strength is wasted by cutting the holes in the tugs, and at the same time the tugs are more easily adjusted.—*Marshall Expounder.*

Morgan Horses.—We have received two communications from Kalamazoo during the past month, which we cannot publish this month, because they were received at too late a date. The first was signed "Kalamazoo," but the writer did not give his name, the second is signed A. and is from the pen of a gentleman we highly respect, and will be attended to soon as possible. In the meanwhile, we must observe that both the writers start from wrong premises, and assume that we are opposed to the introduction of all Morgan horses, because we condemn the use of those which every principle of breeding instructs as will be apt to depreciate instead of improve our own stock. We should feel it our duty to speak in the same terms of a flimsy thoroughbred, as of a puny Morgan, no matter what might be the particular admiration bestowed upon the pedigree of either by those interested in making them profitable. So we should condemn a misshapen Suffolk cart horse, or a bad Clydesdale or Cleveland Bay, no matter what might be the prejudices of those who owned or bred from them, on the same principle. We care nothing for either thoroughbred or Morgan if they are not useful, and have no interest other than to make the *FARMER* useful in elevating the standing of the horses of the State. We have on all occasions most cheerfully, when notified, called attention to the introduction of any valuable animal, no matter what he was, and mean always to do so. But the writers of both the above articles seem to think that we are not posted on the history or performances of the Morgans or Black Hawks. Why, gentlemen, as long ago as 1834 we had opportunities of inspecting, day after day, for some years in the streets of Boston, the Vermont stock of horses, and we passed through the whole original controversy on the origin and merits of the Morgan stock which was begun and carried on in the Albany Cultivator, whilst we were connected with the press in that city. We are perfectly well posted with regard to all that Mr. Linsley says in his book on Morgan Horses, a work which whilst we acknowledge its merits, and sympathize with the enthusiasm of the author, we candidly state we do not regard as gospel, nor do we think the writer was well acquainted either with the history of the horse, or the qualities and characters of other varieties of the equine tribe, when he wrote it. We would also observe that we receive the *Vermont Stock Journal* every month, and read it with attention, so that the testimony copied from it and sent to us as original is quite familiar. Again, we have borne ample testimony to the qualities of the horses introduced into this State, such as Black Hawk Beauty, a

horse remarkable for his style, substance, and perfect form. But are our correspondents aware that he has but an eighth Morgan blood in his veins, if his pedigree is correctly stated? Let us call the attention also of our respected correspondents to the practice of the most distinguished Morgan breeder in the United State, namely, DAVID HILL, Esq., of Bridport, Vermont, the owner of the late lamented Black Hawk. They are probably aware that when Mr. Hill lost Black Hawk by death, he endeavored to supply his place with the very best of his progeny, and we would naturally suppose that he would have had recourse to a cross of that blood which he had spent years of his life in trying to prove was the *ne plus ultra* or perfection of horse flesh. But this shrewd and observant David Hill was a practical breeder, and a real horse man, and knew very well where the speed, spirit and action of the old horse and his most noted progeny came from, and selected a horse named Rip Van Winkle, whose sire was Black Hawk, but whose dam was Lady Taylor. Her pedigree is thus given by Mr. Hill himself: "Lady Taylor was by the thoroughbred horse Knickerbocker, brought from Kentucky to Potsdam, N. Y. He was celebrated for his running and walking, having won several matches at both. The dam of Lady Taylor was a *Gray Messenger* mare, owned in Franklin, N. Y."

Now Mr. Hill knew very well that Old Black Hawk, one of the very best of stock horses, had only a quarter Morgan blood in him. He knew also that if it were from Morgan blood he derived his great excellence, that he ought to have sought a successor to him from progeny that had a close relation on the side of the dam to some of the sons of the old Justin Morgan. But Mr. Hill had a shrewd head, he looked round, and saw that nearly all the most celebrated sons and daughters of old Black Hawk, such as Ethan Allen, Black Hawk Maid, *et id omne genus*, had thoroughbred dams, and that in reality, they were but one eighth or sixteenth Morgan. He therefore selected as successor to Black Hawk, a horse as far removed from Justin Morgan as he could find, and yet be a son of Black Hawk. Now is not this practical illustration of the principles of breeding by such a man as David Hill, better than the testimony of all the bookmen that ever put pen to paper, or dabbled with printers ink? Ought not we men of the west to learn from it that to raise the best horses it is not necessary to throw aside all that experience has taught us, and adopt every notion that happens to suit the pockets of shrewd Yankee speculation?

The Wool Prospects and the Markets.

Wool.—With this month we shall have the wool clip coming into market and it is of some importance that our readers should thoroughly understand the state of the wool business, so that they need not sacrifice their crop unwittingly.

We have seen it stated in the eastern papers within a few weeks, that the clip in some of the western States would be larger this year than it has ever been, especially in Ohio. This may be true, but we do not think the assertion is founded on any well ascertained facts, and nearly all the evidence is against its correctness. In the first place the clip of last year was not taken from the sheep in a large portion of the northwest, until it was nearly three weeks to a month later than usual, so that the actual growth of wool would be depreciated nearly 10 per cent. In the next place, neither the season of last summer nor the past winter has been such as to promote a good growth of wool, and again good sheep have been wanted by the butchers,

and have been in better demand than cattle, the supply being less, showing that the number of sheep had not largely increased. We know that such has been the state of things in this State, and we believe that Northern Ohio is affected in the same way. Last year the clip of Michigan was estimated as reaching nearly 3½ millions of pounds, and Ohio 9½ millions. Having personally examined a large number of flocks in some of the most prominent wool growing counties, during the present Spring, and conversed with their owners, we feel pretty certain that there will be a decrease in the amount of wool taken from each sheep. It was the invariable remark amongst the wool growers, that their flocks, notwithstanding the mild winter, had not wintered well; and that they did not expect as much from them by at least half a pound per head.

Now this fact will not be found out either by the manufacturers or the speculators until after the clip has been nearly all purchased, and consequently they will fix the rates they will pay in accordance with the belief that has been circulated in the eastern markets. Another point which will be insisted upon as a reason why the price should be very low this year is, that the clip of last year is not half sold or used up, and whilst we are told that the stocks in all the principal markets have become much reduced, or nearly exhausted, it is insisted that there is plenty in the interior. Perhaps there is, but we should like to hear of a large supply of wool on hand in any part of this State at the present time.

The last change in the tariff has undoubtedly been the means of working a great wrong to the woollen business, and taken together with the stagnation in trade, and the little force which mill owners dare put on, there has been and is now a great depression in the manufacturing interests, and it is not possible they can recover immediately; hence again, for immediate uses, low prices must be accepted by those who are obliged or determined to sell as soon as the clip is off the sheep's back. But again the non-importation of foreign goods, for want of money to pay for them, is at the present time affecting our manufacturers, and will undoubtedly spur them up to a resumption of business in the fall, or at a time when it is likely confidence will be somewhat restored, and there will be a demand for the goods. But this resumption of business will be apt to benefit the speculator only, he holding for the advance, which he knows is sure to come. We do not expect that wool will bear the prices of last year, but there is such a combination of circumstances to fix the prices lower than it ought to be, that we must endeavor to be prepared for it. Should business result favorably this fall, many mills will then commence operations, and it is likely our fine wools, of which we have explained above, there will not be so large a clip as some suppose, will be in demand at fair prices. Just now the rates quoted at Boston and New York are as follows:

	Boston.	New York.
American Saxon,.....	44 a 46	45 a 46
Full blood Merino,	32 a 36	33 a 37
Half & ¾ blood,.....	80 a 32	80 a 33
Quarter blood,.....	23 a 28	24 a 30

Deduct from these rates five cents per lb., and we have very nearly the prices which will probably be offered for wool at the commencement of the clipping season.

We have seen several letters to one of the largest commission agents in this city, and all put their orders at from 20 to 30 cents. All seem to rely on a larger clip, than ordinary. We differ from the dealers and the market reports of other editors on this point.

The produce market remains dull. Flour made from wheat of this years growth has already made its appearance in the New York market. In some parts of Southern Illinois complaints of severe damage from rust are heard, but generally the crop has seldom been considered finer at this season than it is now. Wherever we have been the wheat fields have looked superbly luxuriant. The wet weather has delayed planting in many places, but there are large sections where the corn is in the ground. Our correspondents advise of other localities, in the same terms, and we shall be again

pleased to hear from them this month, of the condition of the crops. There is little change in prices.

The Markets.

BREADSTUFFS AND GRAIN.		SEEDS, PLASTER, SALT, &c	
Flour, bbl.....	\$5.75 a 5.00	Clover per bush.....	\$4.00 a 5.00
Cornmeal, 100 lbs.....	0.94 a 1.00	Timothy.....	2.50 a 3.00
Buckwheat, 100 lbs.....	1.00 a 0.00	Red top.....	0.00 a 2.00
Wheat, bush.....	0.78 a 0.85	Blue grass.....	1.25 a 3.00
Corn, bush.....	0.44 a 0.47	Millet, 0.50	Hungarian grass \$3
Oats, bush.....	0.25 a 0.30	Sandusky plaster, bbl.....	1.25 a
Barley, per 100 lbs.....	1.00 a 1.12	Grand River.....	1.50 a
BEEF, MUTTON, &c.		N Y Plaster.....	1.13 a
Beef on foot.....	\$2.50 a 3.25	Sandusky water lime, 1.50 a	
Beef dressed.....	4.00 a 5.50	N Y do.....	1.31 a
Sheep, dressed per lb.....	0.34 a 0.05	Salt fine bbl.....	2.00 a
Sheep on foot.....	3.00 a 5.50	do coarse.....	2.25 a
Hogs pr 100, pr 100.....	5.00 a 5.50	MISCELLANEOUS.	
Turkeys.....	1.00 a 1.25	Apples per bush.....	70.00 a 1.00
Chickens, pair.....	0.25 a 3.75	White fish, half bbl.....	4.00 a 4.50
Geese.....	3.75 a 0.50	White beans per bush.....	0.55 a 0.60
Eggs per doz.....	3 a	Sheep pelts.....	1.00 a 1.50
Butter, per lb fresh.....	12 a 14	Hav. timothy, ton.....	8.00 a 10.00
do drkin.....	10 a 12	Common.....	6.00 a 8.00
Cheese per lb.....	9 a 11	Honey.....	14 a
		Potatoes.....	0.20 a 0.30

ATTENTION FARMERS!!

ALL those who want a good article of Cloth or Flannel manufactured for their own use, will do well to take their

WOOL

—TO—

CORNWELL'S FACTORY,

Ann Arbor, Mich.

We have been adding New Machinery to our establishment, and with our long experience in the business, we feel confident that we can give entire satisfaction.

OUR PRICES ARE:

One half the cloth we can make from the wool; or
We manufacture wool as follows:

For Cassimeres.....	3s. per yard.
White Flannel, 2 yards wide.....	3s
Do do 1 yard wide.....	1s. 6. "
Madder red Flannel, fast colors.....	30s.
Wine and Prased Flannel.....	2s. "

Wool sent by railroad will be promptly attended to. All work warranted well done, and ready when promised, or all damages paid prompt.

A large Stock of Cloths, Flannel and Stocking Yarn on hand,

To exchange for wool on reasonable terms.

CORNWELL & BROTHER.

Ann Arbor, May, 1888. June 8t

D Appleton & Co., 246 and 348 Broadway, N. Y.

HAVE JUST PUBLISHED, BY SUBSCRIPTION ONLY.

VOLUME II.—("Arguay—Ben")

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NEW AMERICAN CYCLOPÆDIA:

A Popular Dictionary of General Knowledge,

EDITED BY

GEORGE RIPLEY AND CHARLES A. DANA,

Assisted by a numerous and Select Corps of Writers.

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Contains among its principal titles,

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FARMERS OF MICHIGAN! COX, HIBBS & CO'S

Patent Threshing Machine and Cleaner!
AGAINST THE WORLD!!

Three Rivers, Michigan.

THESE Machines have been used for several years in the States of Missouri, Illinois, Wisconsin, Indiana, Michigan, and Pennsylvania, and have thus far proved in every respect decidedly superior to all others, being simple in their construction, durable, easy on the team, not likely to get out of repairs.

Threshing as much or more than any and cleaning the grain ready for market without waste!

Being determined to outstrip all competitors, we are now fitting the Machines up with an **Iron Concave and Cylinder**, the Concave being perforated, so as to allow three-fourths of the grain to pass through before it strikes the Separator. The rollers are also so constructed that none of the grain can pass over with the straw.

The Eight-Horse Machine will thresh without worrying the team,

From 300 to 400 bushels per day.

The Six-Horse Thresher and Cleaner will thresh From 250 to 300 bushels per day.

The Four-Horse Thresher and Cleaner, will thresh From 150 to 250 bushels per day.

The Two-Horse Thresher and Cleaner, will thresh From 150 to 200 bushels per day.

Robert's Patent Lever Horse Power, is universally acknowledged as being the most simple in its construction, the most portable, and in every respect the best in use.

The Endless Chain, or Railroad Power, is very durable, wrought iron links being used instead of cast iron, consequently they are not so liable to break or wear out.

Orders for these Machines are coming in almost daily, and as we were last year unable to supply the demand, we would advise all desiring to purchase to apply soon.

We would also say to all, call and examine our Machines, and the Testimony of those who used them, before purchasing others.

PRICES OF THESE MACHINES.

The price of the Two-Horse Power and Thresher, is \$240 cash; or \$265, half cash balance on time. Six-Horse same price. Eight-Horse, \$250 cash; or \$275 half cash, balance on time.

Orders for these Machines are coming in almost daily, and as we were last year unable to supply the demand, we would advise all desiring to purchase to apply soon.

ON HAND ALSO,

Machines for Sawing Wood, Circular Saws, Rubber Belting, Corn Shellers, Clover Hullers, Plows, Road Scrapers of the best patterns, &c.

Castings of all kinds made to order.

Repairs of all kinds promptly attended to. Terms reasonable. Remember that we employ none but the best workmen, and warrant our work.

COX, HIBBS & CO.

Three Rivers, Michigan.

N. B. We have also patterns for other smaller Machines, to accommodate all who may desire them. June 8t

Milford Woolen Factory.

THE Subscribers would inform the public that their Factory is now in operation and that they are prepared as usual to exchange cloth for wool. They will also pay the market rates in cash for good clean fleece wool delivered at their Factory in Milford. They would say to the one who may wish to exchange, that they can realize for their wool from twenty-five to thirty per cent more than they can get in the market cloth's worth from one dollar to one dollar twenty-five cents per yard in cash can be obtained for two and a fourth, two and a half and two and three fourths pounds of wool. Fannels of all kinds, Tweeds and Cassimeres can be had from twenty to thirty per cent less for wool than for cash. Merchants will be furnished with cloths on such terms as cannot fail to give satisfaction.

Custom Carding and Cloth Dressing will be done in the best possible manner for ready pay only.

DAVIS & HUBBARD.

Milford Mich., May, 1888. June 2t

PITTS' HORSE POWERS AND SEPARATORS

MACHINE and Warranted by John A. Pitts, at his manufactory in Buffalo, N. Y., are furnished to order at manufacturers price, adding transportation by GEO. N. BULLEN, Agent for the State of Michigan, at Kalamazoo. Orders by mail will receive prompt attention. June 3t

PLOWS. PLOWS. PLOWS.

800 PLOWS of all makes. Starbuck, Eagle, Steel and sub soil, Cultivators and Seed Drills. D. O. & W. S. PEARFIELD, Agricultural Warehouse, Detroit.

THE THOROUGHBRED STALLION

ZINGARO,

From Gipsev, half sister to Mr. Ten Broek's Pryor, will stand for this Season at the Stable of the Subscriber at Burr Oak, St. Joseph county, Mich.

(About half a mile north of Burr Oak Station on the Southern Michigan Railroad).

TERMS:—\$20 for service during the season, and one dollar to the groom, to be paid in cash or by satisfactory note at the time of service.

No mare will be insured. All accidents and escapes at the risk of the owner of the mare.
Good pasturage furnished on reasonable terms.

DESCRIPTION.

Zingaro, is five years old on the 15th of April, of beautiful dark chestnut in color, and somewhat over fifteen hands high, of great substance, and looking much taller than he is. Porters Spirit of the Times states that "his introduction into Michigan will produce a new era in raising horses there."

PEDIGREE.

There is no horse in the United States, which presents a more direct and excellent pedigree than Zingaro. His dam was Young Gipsev, sired by Mercer, out of old Gipsev, the dam of Pryor, the horse which Mr. Ten Broek took to England with Lecompte and Priores; Old Gipsev, was own sister to Medoe, by American Eclipse, out of Young Maid of the Oaks, by Expedition; she by Spread Eagle from Maid of the Oaks; she from a dam by Sharks, &c. Expedition was got by Pegasus who was got by Eclipse.

Young Gipsev's sire was Mercer, a horse imported by Capt. Stockton of New Jersey, sired by Emilius, dam Young Mouse, by Godolphin, g. dam, Mouse by Sir David, g. g. dam Louisa by Ormond, g. g. g. dam, Evelina by Highflyer, out of Termagant, from a daughter of a Regular mare.

Emilius was the sire of Priam, and on the side of the sire runs back directly through Orville, Beninbrough, King Fergus, Eclipse Marske, Squirt, Bartlett's Childers, to the Davy Arabian. By the dam Emily, through Stamford, Hayhazard, Highflyer, Herod, Tartar, Partner, Jigg to the Byerly Turk.

Imported Trustee, the sire of Zingaro, traces back in a direct line by his sire through Golumpus, Gohanna, Mercury to English Eclipse; and by his dam Emma, through Whisker, Wax, Pot 8-08, to Eclipse again, and by her dam Gilsde Fairy through Herma, Chrysolite, to Biscuit, daughter of Childers.

All communications may be addressed to
ap:3t

WILLIAM MORRIS,
Burr Oak, St. Joseph Co., Mich.

WILD DAYRELL.

THIS young TROTTING STALLION will stand the coming season, limited to twenty mares, at the farm of the subscriber, adjoining the village of Farmington, 19 miles from Detroit.

TERMS.

At \$30 the season, money to be paid when mare is first served, season to close on the 1st of August.
All mares not proven to be with foal will be entitled to services the following season.

PEDIGREE.

WILD DAYRELL was foaled June 14, 1854, is 16 hands high, mahogany bay, black legs main and tail with two white hind feet, was sired by Kemble Jackson; dam Lady More out of Messenger Maid by M. Morino Paymaster he by Old Membrino, he by Imported Messenger. Membrino Paymaster was the sire of Iola, Membrino Chief, Gollah, &c.

Kemble Jackson was sired by Andrew Jackson; dam Fanny Kemble, sister to Millers Damsel the dam of American Eclipse, Andrew Jackson was sired by the celebrated horse Bashaw, was got by the Imported horse Grand Bashaw. The dam of Andrew Jackson was by Whynot who was sired by Old Imported Messenger. Andrew Jackson was the sire of New York Black Hawk, Jackson, Young Andrew Jackson, and Henry Clay, (the sire of Cassius M. Clay) all noted for speed. Kemble Jackson made the best trot, three miles to a 150 pound wagon, ever made in the world—trotting two heats without a skip in 8.03 and 8.04½.

Good pasture furnished for mares from a distance, at 50 cents per week.

The subscriber will not hold himself liable for accidents or escapes should any occur.

Trotting stock being desirable for all purposes, and being as readily raised as racers, I have procured stallions of the best and most noted blood and such as have been bred from the best trotters which the United States have produced.

F. F. ELDRID
GEO. F. GREGORY, Agent.

Spring Brook Farm, Farmington, April 1st, 1858. 4t

THE TROTTING STALLION

GLEN BLACK-HAWK.

Will stand for mares the ensuing season, at the Stable of the subscriber on the

GRATIOT ROAD, ONE AND A HALF MILES FROM CITY HALL, DETROIT.

SEASON TO COMMENCE APRIL 12TH, CLOSE SEPTEMBER 1ST.

If sufficient encouragement is given, I will send Black-Hawk to Gross Isle the two last days in each week during the season.

TERMS.

\$12 SINGLE LEAP, \$20 SEASON, \$25 TO INSURE.

Leap and Season Money to be paid when Mare is first served.

PEDIGREE.

Sire, Lone Star by Old Vermont Black Hawk; dam, Messenger Stock.

Detroit, April, 1858.

R. W. HIGBY.

THE CELEBRATED TROTTER STALLION

CROWN POINT BLACK-HAWK,

Will stand for Mares at the Stable of the subscriber in the City of St. Clair.

TERMS \$25 FOR THE SEASON.

Mares proving not with foal entitled to the use of horse next season.
He is a coal black, 15½ hands high, weight 1160 lbs. Has trotted the past winter and without sitting, on a half mile track, ¼ mile in 1.20, also on the same track, ¼ mile and turned a stake and back in same track including turning, inside of three minutes.
He was sired by David Hill's Vermont Black Hawk, his dam from imported stock.
St. Clair, April 16th, 1888. **R. H. JENKS, Agent.**

HARVEST TOOLS!

Of every description on hand and for sale now at **PENFIELD'S**
103 Woodward Avenue.

Horse Rakes, Hand Rakes, Garden Rakes, Hay, Manure and Potatoes forks, Grain Cradles, Scythes, Snaiths, Scythes Stones, Corn Planters, Seed Drills, Horse Hoes, Cultivators, Hoes, Spades, Shovels, Corn Flows, Shovel Flows and an endless variety of Farm Implements. **ma4t**

THE GREAT ENGLISH REMEDY.

SIR JAMES CLARKE'S

CELEBRATED FEMALE PILLS!

Prepared from a Prescription of Sir John Clarke, M. D. Physician Extraordinary to the Queen.

THIS invaluable medicine is unfailing in the cure of all those painful and dangerous disorders incident to the female constitution. It moderates all excess, and removes all obstructions, and a speedy cure may be relied on.

TO MARRIED LADIES

It is peculiarly suited. It will in a short time bring on the monthly period with regularity.

Each bottle, price One Dollar, bears the Government Stamp of Great Britain, to prevent counterfeits.

CAUTION.

These Pills should not be taken by females that are pregnant, during the first three months, as they are sure to bring on miscarriage; but as every other time and in every other case, they are perfectly safe.

In all cases of Nervous and Spinal Affections, Pains in the back and limbs, Heaviness, Fatigue on Slight Exertion, Palpitation of the Heart, Lowness of Spirits, Hysterics, Sick Headache, Whites, and all the painful disorders occasioned by a disordered system, these Pills will effect a cure when all other means have failed, and although a powerful remedy, do not contain iron, calomel, antimony, or anything hurtful to the constitution.

Full directions accompany each package.

Sole Agents for the United States and Canada,

JOB MOSES,

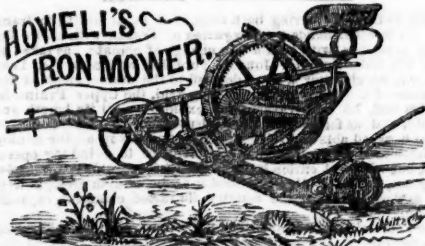
(Late I. C. Baldwin & Co.)

Rochester, N. Y.

N. P. — \$1.00 and 6 postage stamps enclosed to and any authorized Agent, will ensure a bottle of the Pills by return mail.

For sale in Detroit by J. S. CUTHBERT & CO., J. S. FARRAND T. & J. HINCHMAN, and in one Druggist Store in every town in the United States. **April 1st, 1888. 6m**

**HOWELL'S
IRON MOWER.**



*And Combined Reaper and Mower,
PATENTED IN 1857 & 1858.*

Manufactured by

CHARLES HOWELL,

Cleveland Ohio.

(Send for Descriptive Circular.)

PUBLIC SALE

**25 Head of Shorthorn Cattle, 8 Horses
25 Southdown and Cotswold Sheep
and 40 Suffolk Pigs.**

The above stock will be sold at auction on Wednesday, June 16th, at 12 o'clock at the farm of the subscribers. Catalogues furnished on application.

R. & O. S. HAINES,

Elizabeth, New Jersey.

14 miles from New York by New Jersey Railroad. Trains running every hour. **ma2t**

GILMORE'S PATENT BEE HOUSE & HIVE.

I WOULD call the attention of all Apianians to *Gilmore's Patent Right*, which I will sell in the following counties:

Branch, Calhoun, Cass, Eaton, Genesee, Hillsdale, Ingham, Lenawee, Livingston, Monroe, Saginaw, St. Clair, St. Joseph, Washtenaw, Wayne.

If any parties should desire to have their bees transferred from the old to the new hive, I will do it, and warrant perfect satisfaction. **Address: A. F. MOON, Paw Paw.**

FOURTH ANNUAL CATALOGUE

OF

THOROUGHbred NORTH DEVON CATTLE

The property of

C. S. WAINWRIGHT, The Meadows, Rhinebeck, Dutchess Co. N. Y.

THE subscriber has just issued his catalogue for the present season, containing full pedigrees of all the animals composing his herd at this date, terms of sale, &c. He offers at *private sale* some half a dozen young bulls and about the same number of females; all of them of the very first quality, and either bred or imported by himself. Copies, with the prices marked against such animals as are for sale, may be had by addressing him as above.

C. S. WAINWRIGHT.

April 1st, 1888.

3t

HORSE POWERS, THRESHERS AND CLEANERS.

PITTS 8 and 10 horse, Emery's 1 and 2 Horse (tread) Powers Pease's Excelsior Powers, Corn and Cob Mills, Corn Mill and Feed Mills, Flour Mills, Cross-cut and Circular Saw Mills, Leonard Smith's Smut Machines. **D. O. & W. S. PENFIELD,**
may 6m No 103 Woodward Avenue, Detroit.

SEEDS! SEEDS!!

FRESH SHAKER SEEDS, of last years growth and warranted.

ALSO:

Spring Wheat; Sweet Potatoes of several kinds; King Phillip, Flour, Dutton, Eight Rowed and Sweet Corn; Timothy; Clover; Barley; Peas, &c. **At PENFIELD'S, 103 Woodward Ave.**

DRAIN TILE!

WE keep constantly on hand the different kinds of Drain Tile **At PENFIELD'S, 103 Woodward Ave.**

DR. H. BIGELOW, OCULIST,

(Office Room No. 9 Sheldon Block opposite the Peninsular Bank, Jefferson ave., Detroit, Mich.)

Respectfully announces to the public generally that he is now engaged in treating the various diseases of the Eye, with much success. Many Certificates and recommendations might here be given, but such things are so common at this day, that it is deemed sufficient

merely to say to those afflicted, come and SEE H's treatment; the same as that practised by the late Dr. George Bigelow. **May, '57 1yr.**



A BOOK FOR THE SEASON.

THE GARDEN; A NEW POCKET MANUAL

OF PRACTICAL HORTICULTURE. Everybody who owns or rents a garden, large or small, will find this best of all garden manuals indispensable. It gives full directions for the cultivation of

ALL THE KITCHEN VEGETABLES;
ALL KINDS OF FRUITS AND BERRIES;
ALL SORTS OF FLOWERS AND SHRUBS; AND
ALL THE BEST ORNAMENTAL TREES.

It tells all about

SOILS AND MANURES; VEGETABLE GROWTH; AND
THE STRUCTURE OF PLANTS; WHAT PLANTS LIVE UPON;
and shows

HOW TO PREPARE THE GROUND;
HOW TO SOW SEEDS;
HOW TO CULTIVATE;
HOW TO GRAFT AND BUD;
HOW TO PRESERVE FRUITS AND VEGETABLES;
HOW TO DO EVERYTHING.

POPULAR, RELIABLE, FULL OF INFORMATION,
PRACTICAL, COMPREHENSIVE, VERY CHEAP.

You may readily understand it, easily remember its directions, and without difficulty put them in practice. It is *suum in parvo*, and may be carried in the pocket. Adapted to all sections, and sold everywhere. Orders should be sent in at once. Price, in paper, 30 cents; in muslin, 50 cents.

The Series of four "Rural Hand-Books" to which this belongs—"The House," "The Garden," "The Farm," and "Domestic Animals" will be furnished to subscribers ordering them all at the same time for \$1. Address FOWLER AND WELLS, m2t 308 Broadway, New York.

SECOND ANNUAL SALE

Of the

BOURBON COUNTY**DURHAM CATTLE SALE ASSOCIATION.**

ON Thursday the 3d day of June next, the Bourbon county Durham Cattle Sale Association will make its second sale at public auction, on the Bourbon Fair Grounds, near Paris, of thorough bred Durham Cattle. Some eighty head will be sold according to catalogue, to the highest bidder, without reserve or by-bidding. The stock is from the herds of experienced and successful breeders, and will compare with any cattle in the Union.

Mr. R. A. Alexander, of Woodford county, whose herd is equal to any in Europe or America, will make his annual sale on the day previous, which will enable distant purchasers to attend both sales without loss of time. Those attending his sale can reach Paris by railroad in time for the Bourbon Association sale.

Terms—Four months credit for negotiable paper, or a discount of eight per cent, per annum for cash.

Catalogues can be had on application to the Secretary.

GEO. M. BEDFORD, Pres't

R. H. LINDSAY, Sec'y.

WOOL, CLOTH & FLANNEL.

Wm. WALLACE, of Battle Creek.

ANNOUNCES that he is prepared, with new and improved machinery in the best styles, and keeps for sale

Cass merces, Fulled Cloths, Red Flannels, Sattinets, and fine woolen stuffs.

Or he will manufacture on the usual terms, goods to suit and accommodate his customers. He will also dress wine colored or other flannels for women's wear.

Wool will be received in exchange for any of his manufactured goods, and he will receive wool at the Railroad Depot, and deliver the goods at the same place.

Prompt and strict attention paid to all orders and directions.

WM. WALLACE,
Battle Creek, Mich.

Just Published, a Book for every Farmer.

THE SECRET DISCLOSED!!

THE FARMER'S PRACTICAL HORSE FARRIER, containing ample directions for Doctoring; a large collection of valuable recipes, and the GREAT SECRET of Taming horses. Sent free on the receipt of 50 cents. AGENTS WANTED. E. NASH, Publisher, Auburn, N. Y.

**CHINESE SUGAR CANE SEED.**

WE have the best kinds of seed, raised in Tennessee and warranted pure, which we are selling for \$1 per pound, and send to any part of the State. Orders promptly attended to at m2t
PENFIELD'S, 103 Woodward Avenue.

FARM FOR SALE.

A valuable improved farm is offered for sale located in the town of Waterloo, Jackson county, consisting of 180 acres of choice land of which 50 is covered with a good quality of timber and 20 is marsh meadow; 116 acres is arable and 75 of these are seeded down to clover. The whole is well inclosed with fences, and has a good frame house, framed barn, and other fixtures with three wells of good water. There is also an orchard of 200 trees of six to fifteen years standing; and several varieties of cherries, peaches and plum, and twelve varieties of cherries all in bearing. There are also some apple trees and four varieties of grapes.

With the farm will also be sold some choice stock full bloods and grades, should the purchaser desire to purchase, two teams of horses and some fine woolled sheep, and Suffolk and Essex pigs. For further particulars apply by letter or otherwise to

CYREL ADAMS,

Portage Lake, or to

R. F. JOHNSTONE,

Editor Mich. Farmer, Detroit.

Turnip Seed! Turnip Seed!

J. M. THORNBURN & Co., 15 John St. New York, offer the following varieties of Turnip seed:

AMERICAN GROWN SORTS:

The quality of the following sorts is unsurpassed, all having been raised by our own Growers, from the best selected stocks:

Early White Flat Dutch,	per lb.	75
White Strip Leaf Flat,	"	75
Red Top Strap Leaf,	"	75
Red Top,	"	75
Improved Russia or Ruta Baga,	"	75

IMPORTED VARIETIES.

Early White Dutch,	"	50
Early White Stone,	"	50
Large White Norfolk, (very fine),	"	50
Large White Globe,	"	50
Long White Trunkard,	"	75
Green Globe,	"	50
Waller's Eclipse,	"	50
Yellow Aberdeen,	"	50
Yellow Stone,	"	75
Robson's Golden Ball,	"	75
Dale's Hybrid,	"	50
Skirving - Russia or Ruta Baga, (very fine)	"	50
Marshall's do	"	50
Lain's do	"	50
Dickson's do	"	50
Ashcroft's do	"	50
Purple Top do	"	50
Bullock's Heart do	"	50
River's Stubble do	"	50
Long White French, as described in the May number of the "American Agriculturist," fine	"	1 00

Our Customers in ordering will please state whether

Imported or American Seed is wanted.

ALSO:

Round and Prickly Spinach,	per lb.	50
Long Orange Carrot,	"	1 00
Long Red Mangel Wurzel,	"	50
White Sugar Beet,	"	50

J. M. THORNBURN & Co.,

Seed Warehouse,

June 2t

15 John St. New York.

Lake Superior Journal.

THE Subscriber, having been compelled by ill health to transfer to other hands the *Magazine of Travel*, with all its flat boring prospects, with a view to a change of climate, has taken in hand the Lake Superior Journal published at Marquette, Lake Superior, which latter is to be devoted to the development of the resources of that new and interesting field, the Upper Peninsula. To this end, he will traverse and explore in all its length and breadth, as far as possible, its depths too. To this end, also, he has engaged able and reliable correspondents in all the mining districts—men who will give no countenance to swindling operations, but who will enrich its pages with trustworthy mining intelligence, and with other local matters of general interest, as well, such as descriptions of the country, its varied character, capabilities, &c.

The *Journal* enters upon its ninth volume on the first of May 1885, enlarged, in quarto form, (eight pages) and in an entire new dress, new and fine type having been procured.

Terms—in advance—To single subscribers two dollars a year after six months \$2.50, at the end of the, \$3.00.

To clubs, at the rate of five copies for eight dollars, strictly in advance, or, if some little indulgence be given, it must be on the responsibility of the agent.

WARREN ISHAM.

PLOWS! PLOWS!!

STARBUCK'S, Eagle & Ruggie's, Nourse & Mason's Plows, of every description, now on hand for Spring sale, m2t At PENFIELD'S, 103 Woodward Ave. Detroit.



Ayer's Pills

Are particularly adapted to derangements of the digestive apparatus, and diseases arising from impurity of the blood. A large part of all the complaints that afflict mankind originate in one of these, and consequently these PILLS are found to cure many varieties of disease.

Subjoined are the statements from some eminent physicians, of their effects in their practice.

AS A FAMILY PHYSIC.

From Dr. E. W. Cartwright, of New Orleans.

"Your Pills are the prince of purges. Their excellent qualities surpass any cathartic we possess. They are mild, but very certain and effectual in their action on the bowels, which makes them invaluable to us in the daily treatment of disease."

FOR JAUNDICE AND ALL LIVER COMPLAINTS.

From Dr. Theodore Bell, of New York city.

"Not only are your PILLS admirably adapted to their purpose as an aperient, but I find their beneficial effects upon the Liver very marked indeed. They have in my practice proved more effectual for the cure of *bilious complaints* than any one remedy I can mention. I sincerely rejoice that we have at length a purgative which is worthy the confidence of the profession and the people."

DYSPEPSIA — INDIGESTION.

From Dr. Henry J. Knox, of St. Louis.

"The PILLS you were kind enough to send me have been all used in my practice, and have satisfied me that they are truly an extraordinary medicine. So peculiarly are they adapted to the disease of the human system, that they seem to work upon them alone. I have cured some cases of *dyspepsia* and *indigestion* with them, which have resisted the other remedies we commonly use. Indeed I have experimentally found them to be effectual in almost all the complaints for which you recommend them."

DYSENTERY — DIARRHŒA — RELAX.

From Dr. J. G. Green, of Chicago.

"Your PILLS have had a long trial in my practice, and I hold them in esteem as one of the best aperients I have ever found. Their alternative effect upon the liver makes them an excellent remedy, when given in small doses, for *bilious dysentery* and *diarrhœa*. Their sugar-coating makes them very acceptable and convenient for the use of women and children."

CONSTIPATION — COSTIVENESS.

From Dr. J. P. Vaughn, Montreal, Canada.

"Too much cannot be said of your PILLS for the cure of *costiveness*. If others of our fraternity have found them as efficacious as I have, they should join me in proclaiming it for the benefit of the multitudes who suffer from that complaint, which, although bad enough in itself, is the progenitor of others that are worse. I believe costiveness to originate in the liver, but your PILLS affect that organ and cure the disease."

IMPURITIES OF THE BLOOD — SCROFULA — ERYSIPELAS — SALT RHEUM — TETTER — TUMORS —

RHEUMATISM — GOUT — NEURALGIA.

From Dr. Ezekiel Hall, Philadelphia.

"You were right, Doctor, in saying that your PILLS *purify the blood*. They do that. I have used them of late years in my practice, and agree with your statements of their efficacy. They stimulate the excretories, and carry off the impurities that stagnate in the blood, engendering disease. They stimulate the organs of digestion, and infuse vitality and vigor into the system."

Such remedies as you prepare are a national benefit, and you deserve great credit for them."

FOR HEADACHE — SICK HEADACHE — FOUL STOMACH — PILES — DROPSY — PLETHORA — PARALYSIS — FITS — &c.

From Edward Boyd, Baltimore.

DEAR DR. AYER: I cannot answer you *what* complaints I have cured with your PILLS better than to say *all that we ever treat with a purgative medicine*. I place great dependence on an effectual cathartic in my daily contest with disease, and believing as I do that your PILLS afford us the best we have, I of course value them highly."

Most of the PILLS in market contain Mercury, which, although a valuable remedy in skillful hands, is dangerous in a public pill, from the dreadful consequences that frequently follow its incautious use. These contain no mercury or mineral substance whatever.

Prepared by Dr. J. AYER,

PRACTICAL AND ANALYTICAL CHEMIST,

LOWELL, MASS.

And sold by J. S. Farrand Detroit, and by all Druggists every where. feb/68-ly

FURNITURE WAREHOUSE, ON JEFFERSON AVENUE.

BELOW MICHIGAN EXCHANGE, DETROIT.

The Subscribers keep constantly on hand a large stock of

ELEGANT FURNITURE, Both Modern and Antique Styles; in Rosewood, Mahogany and Domestic Wood.

Those wishing rich and fashionable Furniture, will always find a great variety to select from—equal in every respect to anything in the Eastern market. Being in constant receipt of Pattern Pieces from the

FASHIONABLE MAKERS IN NEW YORK

they are enabled to guarantee the most PERFECT SATISFACTION to their customers.

They also keep constantly on hand a large and complete assortment of Plain Furniture of Mahogany, Cherry and Walnut. In short, every article in the line of household Furniture will be found in their Stock, including every style and price, from four shillings to sixty dollars. The subscribers now have on hand, and make to order.

HAIR MATTRESSES.

Their customers can rely upon getting a genuine article.

CORN-HUSK MATTRESSES AND STRAW PALLIASES

constantly on hand. For the trade we keep constantly a large stock of Mahogany and Rosewood Veneer.

Jan '68, if.

STEVENS & ZUG.

PILES! PILES! PILES!

This hitherto intractable disease, of every form and in every stage,

CURED BY EXTERNAL APPLICATION ONLY.

DR. CAVANAUGH'S PILE SALVE

WILL never fail in giving immediate relief and positively curing the worst and most obstinate cases of Hemorrhoids: or Piles. It is the only

INFALLIBLE REMEDY KNOWN

here or elsewhere for the Piles, and is the result of years of patient study and investigation.

Sufferers from Piles now have a remedy at hand which will

STAND THE TEST OF TRIAL,

without a fear of failure on its part, to do all the proprietor claims for it.

Full directions accompanying each box; and all that is requisite is strictly to observe them, and a cure is certain to follow.

The proprietor refers to the following testimonials from gentlemen of character and standing, who have voluntarily given their certificates in its favor, in regard to its efficacy in their own cases. Read them.

The following is from one of the most reliable citizens of Chicago, the late Treasurer of Cook Co., Ill.:

Chicago, July 26, 1855.

DR. CAVANAUGH—Dear Sir, I wish hereby to make known to the afflicted that I have been troubled with the Piles for twenty years or upwards, and at times most severely. And during a recent and exceedingly painful attack, a friend procured a box of your Salve and asked me to give it a trial. I did so. Not, however, with the expectation of benefitting my disease, for truly, I had tried so many applications I had lost confidence in all. But in making use of your Salve, I soon found that it was doing me good; and really it is incredible to myself, that with only about two weeks use of your Salve, I am, so far as I can judge, a well man.

I most cheerfully make this statement, believing it due both to yourself and such as may be afflicted with the most trying and painful disease. I do not hesitate to say that I consider your preparation an invaluable remedy for the Piles.

Most sincerely yours,

H. N. EALL.

The Hon. Richard Yates, late member of Congress from the Springfield, Ill., District, says:

JACKSONVILLE Ill., Nov. 15, 1851.

DR. THOS. H. CAVANAUGH—Dear Sir: The preparation, Cavanaugh's Pile Salve, which you furnished, I found of great service producing an easy and speedy cure. I do not hesitate to recommend it as an invaluable remedy for the Piles.

Respectfully,

RICHARD YATES.

Also Dr. T. H. Cavanaugh's Celebrated

GREEN SALVE.

Price \$1 per box. For sale in Detroit by T. & J. Hinchman, Higby & Stearns, H. & L. Simoneau, H. Haigh, Farrand & Wheaton, T. R. Spence, and Otto Leuschner by all Druggists throughout the State.

Dec. 1yr

DR. T. R. CAVANAUGH, Sole Proprietor,
[St. Louis, Missouri.]

1858. MICHIGAN BREEDING STABLE, 1858. Is Composed of the following Stallions:

OTHELLO OR BLACK PRINCE.

Jet black, eight years old, 15½ hands high, weight 1100 pounds. Sire Hills Vermont Black Hawk. Dam was Morgan and Messenger. Winner of the first prize at the Vermont State Fair, held at Montpelier, and as a Foreign Horse at Vermont State Fair at Rutland 1855. First Prize at Michigan State Fair 1856 and at Branch County Fair same season. He has invariably been awarded the first prize at every Fair where he has been exhibited.

Terms of service \$20 the season, or \$25 to insure.

VERMONT HERO.

Black, nine years old, 16 hands high and weighs 1200 lbs. Sire Sherman Black Hawk by Hills Vermont Black Hawk. Dam by Young Hamiltonian by Bishops Hamiltonian by Im. Messenger, g. d. by Imp. Matchem, dam of young Hamiltonian by Leonidas g. d. by Bellfounder.

Winner of the 2d premium for speed at the Michigan State Fair 1856, time 2.40, first premium at the Branch County Fair same season, time 2.47. And is without doubt the fastest stallion of his size in the west.

Terms of service \$15 the season, or \$20 to insure.

MOSCOW OR DEFIANCE.

Brown, ten years old, 15 hands high weighs 1000 pounds. Sire Defiance, an imported thoroughbred; out of the dam of Lady Moscow sired by a thorough bred horse.

Moscow although nearly thoroughbred is from trotting stock on the side of both sire and dam and has himself achieved many triumphs on the turf. His performances are well known in Quebec, Montreal, St. Louis and Chicago. His public performances have ranged from 2.37 to 2.43. He has a half sister on his sire's side whose owner claims has trotted a single mile in 2.24 and equalled the best time on record, three miles and repeat. (See advertisement in Porter's Spirit of the Times Jan. 16.)

His half sister, Lady Moscow, on the dam's side has long been upon the turf and her performances are too well known to need any notice in this advertisement.

It is impossible in this place to give full pedigrees or detailed accounts of performances, but will be pleased to give full particulars to any who call on me.

Terms of service \$20 the season, or \$25 to insure.

GRAY MESSENGER.

White, 16 hands high, 11 years old, weight 1200 pounds. Sire Van Hovanburgh Messenger by Ogden's Messenger, dam nearly full bred Messenger mare.

Terms of service \$8 the season or \$10 to insure.

I flatter myself that I am now able to offer the public a stable of breeding stallions that has no equal in the west if anywhere. They have size, style, speed, and blood unsurpassed. Three of the above horses can trot inside of 2.50 any day without train or preparation. My Stable is located 1½ miles east of Coldwater village.

April 1st, 1858.

A. C. FISK.

ORPHEUS.

The above named Shorthorn Bull, will be let to a limited number of thoroughbred cows, the coming season, at my farm, in Coldwater.

Price of service \$15, for the season for three months from date of first service.

Cows placed in my care, at the owners risk, will be well provided for at 50 cents per week.

To speak of his merits is unnecessary to the breeders of this stock. His pedigree annexed is sufficient to show that in purity of blood he is excelled by no animal in the country.

PEDIGREE—On side of dam.—1. Songstrees, imported, by Snow ball, [1846 E.]

2. Melody by Sir Thomas Fairfax 6106.

3. Magie by Wallace 5586.

4. — by Wellington 2824.

5. — by Marmion 466.

6. Daphne by Merlin 430.

8. Nell Gwynne by Layton, 366.

9. — by Favorite 252.

10. — by Favorite 252.

11. — by Hubback 319.

12. — by Snowdon's bull 612.

13. — by Marstall's bull 912.

14. — by Masterman's bull 442.

15. — by the Stud cy bull 626.

PEDIGREE—On side of Sire.—Duke of Gloucester, 11382, sired by Grand Duke, 10284, from

1. Duchess 19, by 2d Duke of Oxford, 9046.

2. Duchess 56, by 3d Duke of Northumberland, 3646.

3. Duchess 61, by Cleveland Lad, 3409.

4. Duchess 41 by Belvidere, 1706.

5. Duchess 32, by 3d Hubback 1423.

6. Duchess 19, by 2d Hubback 1423.

7. Duchess 12, by the Earl, 646.

8. Duchess 4, by Ketten 24, 710.

9. Duchess 1, by Comet, 165.

10. — by Favorite, 252

11. — by Daisy bull 175.

12. — by Favorite, 252.

13. — by Hubback 319.

14. — by J. Brown's Red Bull.

J. B. ORIPPEN, Coldwater, Mich.

JACKSON NURSERY.

THE Proprietors of the Jackson Nursery having entered largely into the Nursery business, offer for sale a superb stock of

Apple Trees.

Well grown, thrifty, and stocky, of the choicest varieties, propagated with great care, and well supplied with fibrous roots.

We have on hand also a choice lot of

Cherry Trees.

These are large and handsome trees. Also a superior lot of

Pear Trees.

Standard and Dwarf, very stocky and healthy. Dwarfs well furnished with limbs. Also

Peach Trees,

One year old from the bud, of the best varieties, and well grown.

We have also for sale,

PLUM, APRICOT, AND ORANGE QUINCE TREES,

With a general assortment of Small Fruits.

And a variety of Ornamental Trees and Shrubs. Also a superior lot of

Norway Spruce, Balsam Fir, Scotch Pine and American Arbor Vite.

Well cultivated and grown on dry soil. Also a splendid assortment of

Strawberry Plants.

Containing many new and popular varieties, all of which will be sold on reasonable terms, and warranted true to label.

All who desire to purchase trees would do well to examine our stock before purchasing elsewhere.

Jackson, Mich., Oct. 1867.

HARWOOD & DUNNING.